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March 8, 2012

Jessica Hernandez
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Via U.S. Mail and Electronic Mail
Hernandez.Jessica@epamail.epa.gov

Re: San Jacinto River Waste Pits Superfund Site ("Site")/Unilateral Administrative Order for Remedial Investigation and Feasibility Study, U.S. Environmental Protection Agency ("EPA") Region 6, CERCLA Docket No. 06-03-10 ("UAO") and Administrative Settlement Agreement and Order on Consent for Removal Action between EPA, McGinnes Industrial Maintenance Corporation ("MIMC") and International Paper Company ("International Paper"), U.S. EPA Region 6 CERCLA Docket No. 06-12-10 ("AOC") – San Jacinto River Fleet LLC ("SJRF") Activities and Draft Work Plan

Dear Jessica:

Thank you for forwarding the "Draft Sampling and Analysis Plan for Pre-Construction Baseline Site Assessment, San Jacinto River Fleet Property, Harris County, Texas" dated February 2012 that was prepared on behalf of SJRF ("Draft Baseline Site Assessment SAP"). You requested that Respondents MIMC and International Paper provide comments on the Draft Baseline Site Assessment SAP by March 8, 2012. Comments prepared by Respondents' consultant, Anchor QEA ("Anchor Comments") are set out in a Memorandum that is attached as Exhibit 1.

This letter also describes Respondents' long-standing concerns about SJRF's operations, and in particular, the impact of those operations on the armored cap constructed as part of the Time Critical Removal Action ("TCRA") at the Site ("TCRA Armored Cap"). Those concerns are the basis, in part, for Respondents' objections to the scope of SJRF's assessment efforts and to any attempt by SJRF to gain liability protection with respect to its impact on the Site.

I. COMMENTS ON DRAFT BASELINE SITE ASSESSMENT SAP

The Draft Baseline Site Assessment SAP states that it "is intended to establish the present status of the SJRF Property with respect to the ongoing investigation at the Superfund site so that future liability can be averted with regard to remobilizing dioxin contamination sediment from barge activities." Draft Baseline Site Assessment SAP at 4. As addressed below,

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however, the Draft Baseline Site Assessment SAP assumes that SJRF operations have not already redistributed sediments at the Site – when they in fact have. The Draft Baseline Site Assessment SAP's focus on "avert[ing] future liability" thus is misplaced, and the investigation it proposes is inadequate to assess the extent of the impacts that SJRF's operations to date have caused.

As explained in the Anchor Comments, the work contemplated by the Draft Baseline Site Assessment SAP is not sufficient to assess the extent of the harm and impacts associated with SJRF's operations, both in the past and the future. In addition, specific shortcomings that Respondents identified to EPA relative to the October 13, 2011 proposal that SJRF submitted to EPA ("SJRF Proposal", attached as Exhibit 2) are not addressed in the Draft Baseline Site Assessment SAP. Among other things, the Draft Baseline Site Assessment SAP focuses on determining the concentrations of dioxins and furans in locations where SJRF is considering placing pilings for their operations and fails to address concerns related to sediment disturbances already created by propeller wash from SJRF's operations.

Those impacts associated with SJRF's operations have already occurred and will continue to occur unless EPA takes steps, as outlined below, to prevent additional impacts from SJRF's operations. As discussed below, EPA should also require that SJRF reduce or cease its operations until such time as it has completed an investigation that satisfactorily demonstrates that its operations are not having a deleterious effect on the Site. As addressed below, EPA has indicated in guidance that it has the authority to take such actions, and doing so would be consistent with EPA's contaminated sediment management guidance (U.S. Environmental Protection Agency, Contaminated Sediment Remediation Guidance for hazardous Waste Sites, EPA-540-R-05-012, OSWER 9355.0-85, December 2005 (USEPA 2005)), which identifies boating controls as an appropriate early action to minimize migration of contaminated sediments.

In submitting the Draft Baseline Site Assessment SAP, SJRF appears to be seeking liability protection with respect to the Site. There does not appear to be any justification for considering the extension of any liability protection to SJRF. As noted above (and addressed in more detail below), SJRF's operations appear to have caused resuspension of sediments with the potential to impact the TCRA Armored Cap, and the Draft Baseline Site Assessment SAP does not acknowledge, much less address, those impacts. As addressed below, SJRF acquired and began operations on its property aware of the adjoining Superfund site and on notice that the company from which it was acquiring the property had been involved in events associated with the unauthorized dredging of the berm surrounding the waste impoundments ("Impoundments") at the Site. Under the circumstances, there is no basis for EPA to consider extending liability protection to SJRF, much less to extend any such protections to SJRF.

II. IMPACTS FROM SJRF'S OPERATIONS

On a number of occasions, Respondents have raised with EPA concerns about SJRF's tugboat and barge operations. Those concerns, and the evidence supporting Respondents' view that SJRF's operations impacted and continue to create the potential for resuspension of potentially-

contaminated sediments in and around the TCRA Armored Cap are discussed below. To summarize:

- Since mid-2011, SJRF has occupied (and in August 2011 purchased) the property formerly owned by Big Star Barge & Boat Company, Inc. ("Big Star") that adjoins the Impoundments (the "Former Big Star Property" or "Property").
- As Respondents have repeatedly documented (most recently in a letter dated December 20, 2011, a copy of which is attached as Exhibit 3), dredging activities based at the Former Big Star Property began in the late 1990s and undermined the berm surrounding the Impoundments. The dredging activities are the apparent cause and source of dioxins and furans that have been detected on and around the Property and in the San Jacinto River ("SJR") in the vicinity of the Impoundments.
- Propeller wash from SJRF's tugboat fleet appears to be suspending potentially contaminated sediments from the river bed and may be causing those sediments to be redistributed. In particular, SJRF's operations appear to be causing the redeposition of potentially contaminated sediments in areas addressed as part of the TCRA.
- During TCRA construction, EPA was focused on minimizing resuspension of potentially contaminated sediments associated with marine operations. To that end, Respondents constructed and maintained a turbidity curtain and took a number of steps to minimize that risk. In contrast, SJRF's operations involve larger vessels that create significantly more propeller wash than the vessels used during TCRA construction. SJRF's operations are also concentrated in areas where higher concentrations of dioxins and furans, associated with the Big Star dredging operations, have been detected.

A. SJRF's Acquisition of the Property

SJRF purchased the Former Big Star Property from Big Star in August of 2011. Its activities on the Property, however, began several months earlier. SJRF's website reflects that SJRF commenced its operations at that location as of July 1, 2011. Even before July 1, 2011, Respondents' TCRA contractors noted that grading and other activities were taking place on the Former Big Star Property and those activities were called to EPA's attention.

SJRF was aware of the Property's proximity to the Impoundments and of the Site investigation and TCRA construction when it decided to occupy and then acquire the Former Big Star Property. In fact, the deed by which SJRF acquired the Property includes an indemnity related to the activities of Big Star and its sister company, Houston International Terminal, Inc. ("HIT") associated with the Site. A copy of that deed is attached and marked as Exhibit 4.

Information about the role of Big Star and HIT in the dredging activities that took place on the Former Big Star Property was a matter of public record, and presumably was either formally disclosed to or otherwise available to SJRF before it decided locate its operations on and ultimately purchase the Property. The administrative record with respect to the Site reflects the

multiple occasions since 2009 on which Respondents have provided to EPA evidence of the impact of dredging associated with the Former Big Star Property and pressed EPA to name Big Star and HIT as potentially responsible parties ("PRPs") at the Site. Big Star's president and its counsel were parties to many of those communications. SJRF, however, apparently did not discuss with EPA in advance its plans to conduct fleeting operations in the vicinity of the Property and the Site.

B. SJRF's Operations

SJRF is currently conducting its operations just to the west and north of the Impoundments where the TCRA was completed. SJRF's primary operational areas include:

- the shoreline area of the Former Big Star Property ("Shoreline Area");
- the areas between this shoreline and the primary navigation channel of the SJR; and
- the primary navigation channel of the SJR to downstream areas.

These areas are depicted on Figure 4-1 of the Draft SAP, a copy of which is attached as Exhibit 5. Attached and marked as Exhibit 6 are aerial photographs taken on July 14, 2011, showing the location of barges parked around the Former Big Star Property.

Based on RI/FS sampling conducted on behalf of the Respondents in 2009, sediments containing dioxins and furans are present in the Shoreline Area near where SJRF's operations are concentrated. In fact, the highest concentrations of dioxins and furans identified within the Remedial Investigation/Feasibility Study (RI/FS) Study Area – other than those within and in close proximity to the Impoundments (which are now covered by the TCRA Armored Cap) – were detected in this location. The sampling data include surface concentrations of dioxins and furans on a TEQ basis at two discrete sampling points of 121 ng/kg and 153 ng/kg; subsurface concentrations of dioxins and furans in the same area are up to 349 ng/kg TEQ. A figure taken from the draft Preliminary Site Characterization Report submitted to EPA by Respondents' consultants, Anchor QEA and Integral Consulting, Inc., contains those data, as well as the locations of the referenced sampling points. A copy of the figure is attached and marked as Exhibit 7.

Respondents regard the presence of dioxins and furans in this area to be directly attributable to the dredging activities conducted on and from the Former Big Star Property. The letter dated December 20, 2011 and the technical report prepared by Anchor QEA which accompanies it (Exhibit 3) describes the dredging activities engaged in by Big Star, HIT and another company, MegaSand Enterprises, Inc., beginning in 1997. It also summarizes the multiple lines of evidence that show that those dredging activities undermined the berm around the Impoundments and caused material from the Impoundments containing dioxins and furans to be transported to various locations in the river bed and in the vicinity of the Impoundments.

C. Evidence of Impacts from SJRF Operations

During TCRA construction and other activities at the Site, Respondents' contractors have observed SJRF's tugboats and barges operating in the areas described above and noticed excessive turbidity in the SJR water behind those vessels. Concerns regarding SJRF's activities have been identified in monthly progress reports under the UAO, beginning with the report that was submitted on October 15, 2011.

In mid-September 2011, one of Respondents' contractors (Anchor QEA) attempted to retrieve an Acoustic Doppler Current Profiler ("ADCP") that had been deployed in the bed of the SJR in 2010 as part of the RI/FS investigation. The ADCP, which was regularly serviced using a retrieval buoy to bring it to the surface, was at that point located near SJRF's operations in the approximate location depicted on Exhibit 5. Anchor QEA's maintenance crew was unable to retrieve the ADCP by activating the retrieval buoy. A diver was dispatched to retrieve the ADCP on September 15, 2011, and discovered that the ADCP was buried in approximately one foot of sediment – the apparent reason why the retrieval buoy had malfunctioned. On the following day, Friday, September 16, 2011, Respondents' Project Coordinator, David Keith of Anchor, discussed the situation with respect to the ADCP with Mr. Gary Miller of EPA. He then submitted a letter regarding the situation to Mr. Miller dated September 21, 2011, a copy of which is attached as Exhibit 8.

As of mid-September, SJRF had been actively conducting barging activities for less than two and a half months. The ADCP had previously been serviced on July 13, 2011, when it had been retrieved from a nearby location without any problem. Moreover, due to drought conditions, there had been very little flow in the SJR since the July 13, 2011 service event and subsequent redeployment of the ADCP. In the absence of high flow conditions, the high sedimentation observed at the ADCP location in mid-September 2011 can only be explained by sediments being suspended and redistributed by propeller wash from nearby tugboat and barge traffic associated with the SJRF fleeting operations.

The impact of propeller wash in disturbing sediment beds in marine environments is well documented. Extensive studies have been conducted on the potential effects of these forces at contaminated sediment sites. The studies include a study by Michelsen and others (Michelsen, T.C., C.D. Boatman, D. Norton, D., C. C. Ebbesmeyer, T. Floyd, and M.D. Francisco. Resuspension and Transport of Contaminated Sediments along the Seattle Waterfront, Part 1: Field Investigations and Conceptual Model, *Journal of Environmental Engineering*, Volume 5, 1999, p. 35-65), a copy which is attached as Exhibit 9.

As mentioned above, EPA's contaminated sediment management guidance document (USEPA 2005) discusses the importance of taking early action to ensure control of significant contaminant sources such as propeller wash (p. 2-22). Highlight 2-7 of the guidance document, for example, lists "*boating controls (e.g., vessel draft or wake restrictions to prevent propeller wash, anchoring restrictions)*" as an example of an early action to minimize migration of contaminated sediments. (See, *id.*, page 2-23, Highlight 2-7). Highlight 2-8 also indicates that

propeller wash is a potential anthropogenic cause of sediment and/or contaminant movement. (See, *id.*, page 2-24, Highlight 2-8).

III. SJRF's FAILURE TO ADDRESS THE IMPACT OF ITS OPERATIONS

The SJRF Proposal (Exhibit 2) was prepared in the wake of the incident involving the ADCP (which showed that SJRF's fleeting operations appeared to be causing resuspension of potentially contaminated sediments in the vicinity of the TCRA Armored Cap) and an early October 2011 meeting between SJRF and EPA representatives to address those concerns. The SJRF Proposal, however, did not address the impact of propeller wash associated with operations of SJRF's tugboat fleet. It instead focused on sampling for dioxins and furans in areas in which SJRF proposes to install new pilings as part of plans to shift the location of some of its operations. Respondents were not provided with a copy of the SJRF Proposal until November 22, 2011 (the Tuesday before the Thanksgiving holiday), and had no meaningful opportunity to review and comment on it before EPA, by letter dated November 25, 2011, approved it with certain changes.

The SJRF Proposal and the Draft Baseline Site Assessment SAP prepared following EPA's approval of the SJRF Proposal are insufficient to assess the impact of potential sediment resuspension that has already occurred as a result of SJRF's operations - and will continue to occur unless EPA takes action. Additional steps necessary to address resuspension of potentially contaminated sediments were described to EPA by Respondents' consultant in a telephone conference that took place on November 29, 2011. As a result of the November 29, 2011 conference, EPA indicated that it would consider the steps proposed by Respondents and issue a follow-up letter to SJRF. To Respondents' knowledge, no follow-up letter has been issued to SJRF. Respondents urge EPA to consider the Anchor Comments attached as Exhibit 1 and the information contained in this letter and require SJRF to modify the Draft SAP to address these comments.

EPA should also require that SJRF, in the interim, modify or suspend its operations to minimize the potential for resuspension of potentially contaminated sediments and impacts to the TCRA Armored Cap. In fact, EPA should name SJRF as a PRP for the sediment resuspension and redistribution that has been occurring and order SJRF to undertake the above actions as a PRP.¹ Moreover, even if EPA decides not to name SJRF as a PRP, EPA regards its authority to

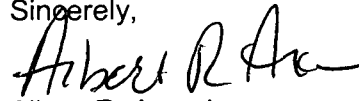
¹ See, e.g., *City of Waukegan v. Nat'l Gypsum Co.*, 587 F.Supp.2d 997 (2008) (lessees with business operations on properties adjacent to and near a harbor contaminated with PCBs - and which, along with some of the surrounding land, had been listed as a Superfund site - were held potentially liable as CERCLA operators when, in operating their vessels, they "exacerbated the PCB-contamination in the Facility" by utilization of the harbor during their operations); see also *Kaiser Aluminum & Chemical Corp. v. Catellus Dev. Corp.*, 976 F. 2d 1338, 1340-42 (9th Cir. 1992) (a construction contractor who excavated contaminated soil and moved it to other previously uncontaminated sections of a property in the process of excavating and grading a portion of said property for a housing development, was held potentially liable under CERCLA as an operator, because it controlled the excavation and grading activities which had exacerbated the contamination, and as a transporter, because of the movement of the contaminated material.)

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issue a CERCLA Section 106(a) unilateral order to extend to actions "necessary to protect the public health, welfare, or the environment." United States Environmental Protection Agency, *Guidance on CERCLA Section 106(a) Unilateral Administrative Orders for Remedial Designs and Remedial Actions*, OSWER Directive Number 9833.0-1a, pp.12-13 (1990).² In the absence of such steps, SJRF's continuing operations could impact the TCRA Armored Cap and contribute to dispersal of potentially-contaminated sediments.

We would appreciate an opportunity to discuss the above with you, and EPA's plans to address the impacts associated with SJRF's activities in the vicinity of the Site.

Sincerely,



Albert R. Axe, Jr.

Enclosures
ARA:mr

cc: Gary G. Miller, Remedial Project Manager ***Via U.S. Mail and Electronic Mail***
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² EPA has identified the basis of that authority as being that Section 106 is "broadly worded to authorize all relief 'necessary to abate [the] danger or threat' [to the public health or welfare or the environment]" and that "[t]here is no express restriction on the nature of the relief authorized except as equity and the public interest may require." United States Environmental Protection Agency, *Guidance on CERCLA Section 106(a) Unilateral Administrative Orders for Remedial Designs and Remedial Actions*, OSWER Directive Number 9833.0-1a, p. 13 n. 29 (1990) (citing to *B.F. Goodrich Co. v. Murtha*, 697 F. Supp. 89, 94 (1988)).

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EXHIBIT 1



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MEMORANDUM

To:	International Paper Company McGinnes Industrial Maintenance Corporation	Date:	March 8, 2012
From:	David Keith, Anchor QEA, LLC		
Re:	Review of Draft Sampling and Analysis Plan for Pre-Construction Baseline Site Assessment San Jacinto River Fleet Property, Harris County, Texas (Draft SAP)		

The following provides comments on the subject draft sampling and analysis plan (Draft SAP) prepared by Tolunay-Wong Engineers, Inc. and dated February 2012. These comments were prepared on behalf of McGinnes Industrial Maintenance Corporation (MIMC) and International Paper Company (IPC), the Respondents for the San Jacinto River Waste Pits Superfund Site (Site). The Site, as defined by the U.S. Environmental Protection Agency (USEPA), potentially encompasses operational areas of the San Jacinto River Fleet (SJRF), as shown in Figure 4-2 of the Draft SAP.

The comments provided in this Memorandum are not intended to be a comprehensive assessment of the validity of all statements in the Draft SAP. The focus of the review was to evaluate the adequacy of the Draft SAP in regards to establishing the potential effects of the SJRF operations on the Remedial Investigation/Feasibility Study (RI/FS) study area (Study Area), and the armored cap that was recently constructed over the northern impoundments to stabilize that area as part of the Time Critical Removal Action (TCRA).

Comment #1

The following italicized excerpt was taken directly from the subject Draft SAP as a basis for the subsequent comment:

1.3 Problem Definition and Project Objectives

Based on the area history, the SJRF Property is incidentally associated with the SJRWP Superfund Site which was added to the National Priorities List (NPL) on March 19, 2008. The investigation described in this SAP is not intended to supplement that investigation but is intended to establish the present status of the SJRF Property with respect to the ongoing

investigation at the Superfund site so that future liability can be averted with regard to remobilizing dioxin contamination sediment from barge activities. For this reason, determining nature and extent are not at issue, nor is defining risk to human and ecological receptors an objective. Whereas these are endpoint objectives for the Superfund site, they are the starting points for the baseline assessment that SJRF will conduct.

In order to avoid CERCLA liability, EPA requires that a series of baseline samples be collected before SJRF commences facility construction for barging operations. As per EPA guidance, any sampling effort will need to address environmental issues associated with sediment remobilization accompanying barge traffic and potential contamination redistribution associated with pylon installation efforts that disturb sediment in submerged lands. As noted above, hollow steel tubes will be used as pylons, resulting in minimal disturbance of sediment. Activities that will be conducted to meet these objectives will include:

- establishing pylon locations based on the proposed routing and spacing of pylons;*
- selecting key pylon locations for sediment sampling efforts;*
- developing a method for selecting and establishing sample locations for annual sediment monitoring along the main channel;*
- defining a sampling methodology for collecting representative samples of soft sediment;*
- prescribing an analytical program that characterizes contaminant concentrations in sediment at a level that can adequately evaluate ecological exposure; and, reporting to establish a baseline characterization of sediment with follow-up reports that reflect annual monitoring results.*

The primary issue of concern for the Respondents is that suspension of contaminated sediments by propeller wash from tugboats in the SJRF operational area will re-distribute sediments containing dioxins and furans within the Study Area and potentially contaminate the surface of the armored cap that was placed over the northern impoundment area as a stabilization measure for the TCRA. The project objectives provided in the Draft SAP do not address this concern and do not establish the short- or long-term effects of the SJRF

operations within the Study Area. Information regarding SJRF's operations is provided in the cover letter that accompanies this Memorandum.

In addition, sediment and soil data collected within the SJRF operational area were collected as part of the ongoing RI for the Site with the expressed objective of establishing baseline conditions within the Study Area. Therefore, baseline conditions have been established for the Study Area, and any newly collected data should be compared to that baseline dataset, which is provided in the Preliminary Site Characterization Report (Integral and Anchor QEA 2012). Since SJRF has been operating within the Study Area since July 1, 2011, the proposed sampling will not involve the collection of a "series of baseline samples". The Draft SAP should provide for the collection of a series of samples to determine the impacts of SJRF's operations over the last seven-plus months, in particular with respect to the armored cap.

The purpose of sampling at locations where proposed pylons will be driven into the sediments is not clear and does not address the Respondents' concern of evaluating the potential impact of SJRF's barge operations on sediments. Driving pylons typically only produces local and minor vertical and lateral displacement of sediments and does not significantly affect the distribution of contaminant concentrations in sediments and is considered irrelevant to establishing the effect of SJRF's operations on the distribution of dioxins and furans in the Study Area and the TCRA armored cap.

Comment #2

Section 1.4.1 of the subject Draft SAP states:

"the determination of Chemicals of Concern (COC) is a function of how potential receptors under consideration might respond to constituents that have been released from the Superfund site. Since the objective of the pre-construction baseline site assessment focuses exclusively on sediment, humans are not included in the list for the SJRF Property."

The exclusion of humans as potential receptors of concern is not consistent with the ongoing RI/FS risk assessments. It has been USEPA's position that dioxin and furans in sediment can affect water and biological tissue concentrations that can ultimately become part of a human diet. These relationships are acknowledged in the Conceptual Site Model (CSM) presented in

the Draft SAP (Figure 2-2); however, human exposures are not acknowledged in the identification of COCs or the development of screening criteria in the Draft SAP.

A large part of the RI/FS effort involves establishing potential risk to humans from dioxins and furans in soils and sediments at the Site. The USEPA has established screening guidelines for dioxins and furans in soils and the Texas Commission on Environmental Quality (TCEQ) has established tissue-based water quality criteria that can be used to establish respective sediment quality concentrations, based on biota accumulation factor considerations. The dioxin and furan screening numbers used by USEPA and TCEQ are significantly lower than those that are proposed to be used in the Draft SAP.

Comment #3

Section 2.0 of the Draft SAP states the following:

“Inasmuch as the CSM for the Superfund site targets the release point of dioxins, its application to the SJRF Site is indirect, with the latter serving more as a component interim receptor than a distribution point. In that context, the CSM for the SJRF Property will concentrate on potential redistribution of impacted sediments that source from the Superfund Site.”

Historical aerial photographs of the area clearly show that sand mining and separation operations occurred on, and adjacent to, the property formerly owned by Big Star Barge & Boat Company, Inc., where SJRF currently operates. The sand mining is acknowledged in the Site History section of the Draft SAP. Discharges from the sand mining operations along the shoreline of the SJRF land-based operations are coincident with the highest concentrations of dioxins and furans found in sediments outside of the TCRA armored cap area. This information is accurately reflected in Figure 1-3 of the Draft SAP. As such, the SJRF Site is considered a direct distribution point of dioxins and furans. The SJRF operational area is directly over the materials that were discharged from the sand mining operations. These materials have relatively high concentrations of dioxins and furans compared to other sediments in the Study Area outside of the armored cap area and have the potential to be redistributed by ongoing SJRF tugboat and barge operations.

Comment #4

Section 4.0 - The Field Sampling Plan of the Draft SAP states the following:

The sediment sampling design incorporates two components:

- *One series of samples collected at four locations where pylons will be installed for barge navigation in the docking area. While a large number of pylons will be installed, only those located in areas with the greatest risk of being impacted by dioxin and furans will be sampled. As implied by its purpose, this phase of sampling will be a single event and will require knowledge of where the pylons will be driven.*
- *A second series of samples collected at four locations along the submerged west bank of the main channel of the San Jacinto River where barge traffic might stir up sediment, thereby potentially remobilizing dioxin and furans. Because the objective of this sampling effort involves a time element, this part of the sampling program will be conducted annually.*

As noted in Comment #1 above, the purpose of sampling at locations where proposed pylons will be driven into the sediments is not clear and does not address the Respondents' concern of evaluating the potential impact of SJRF's barge operations on the Study Area and the TCRA armored cap. Driving pylons typically only produces local and minor vertical and lateral displacement of sediments and does not significantly affect the distribution of contaminant concentrations in sediments and is considered irrelevant to establishing the effect of SJRF operations on the distribution of dioxins and furans in the Study Area and the TCRA armored cap.

Four sample locations along the main channel of the west bank of the San Jacinto River are not adequate to establish the potential effects of SJRF operations on the Study Area, and certainly do not address the concerns related to potential contamination of the TCRA armored cap by sediments that are suspended and transported through the water column as a result of barge and tug operations associated with SJRF operations. The proposed sampling locations, shown in Figure 4-2 of the Draft SAP, are located on the northern edge of the Study Area and have had historically low concentrations of dioxins and furans based on RI/FS data (shown in Figure 2-3 of the Draft SAP). The proposed sample locations are also outside of the areas of the river where higher concentration materials would settle out of the

water column due to the existing flow paths and hydrologic regime of the river. As stated earlier, the higher concentration materials are located along the shoreline of the SJRF property: the choice of sampling locations should be related to the existing distribution of dioxins and furans in sediments within the Study Area and the existing hydrologic regime of the river. Sampling locations should be determined based on where potential scour and deposition of the higher concentration materials are expected.

In addition, sampling on an annual time frame does not provide short-term information regarding the ongoing effects of the SJRF operations on sediment quality in the Study Area or the TCRA armored cap area. The scope of sampling should include more sampling locations, more frequent sampling, and more aggressive sampling techniques to determine if the ongoing SJRF operations are substantially changing the baseline conditions of dioxins and furans in sediments within the Study Area and the TCRA armored cap area. The current baseline dataset that was collected for the RI/FS is being carried forward in ongoing ecological and human health risk assessments for the Site and in the FS planned to begin in the fall of 2012.

EXHIBIT 2

Tolunay-Wong Engineers, Inc.

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Wednesday October 13, 2011
TWE Proposal No. P11-E078

San Jacinto River Fleet, L.L.C.
C/O Brian Darnell, Vice President
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Channelview, Texas 77530

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PROPOSAL FOR PRECONSTRUCTION SITE ASSESSMENT BIG STAR PROPERTY, HARRIS COUNTY, TEXAS

Dear Mr. Darnell:

Tolunay-Wong Engineers, Inc., (TWE) is pleased to submit the following proposal to San Jacinto River Fleet, L.L.C (SJRF) to provide a pre-construction site assessment in view of becoming exempt from liability under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) for the property recently acquired (formerly Big Star Property) (Site) located along the San Jacinto River in Harris County, Texas. Project details were discussed in our meeting on October 11, 2011.

Background

The site comprises exposed land and submerged land situated along the San Jacinto River near its crossing by Interstate 10 in Channelview, Harris County, Texas. The site is located on the Harris County Key Map, page 459Y. Based on meeting discussions with EPA, SJRF is voluntarily entering into an EPA Order that will remove them from CERCLA liability for conducting barge operations that might spread dioxin contamination originating from the San Jacinto River Waste Pits Superfund Site. The primary concern is that SJRF's barge operations along San Jacinto River could potentially mobilize dioxin impacted sediment, thereby allowing it to spread downstream. Terms of the EPA Order will include the installation of a series of pilings that will prevent barges from drifting into and damaging the cap that has been installed on the SJRWP superfund site. These pilings will be arranged in lines that will constrain barge traffic to specified operating areas owned by SJRF.

Objective

In order to avoid CERCLA liability, EPA requires that a series of baseline samples be collected before SJRF commence barge operations. As per EPA guidance, any sampling effort

will need to address environmental issues associated with sediment remobilization accompanying barge traffic and potential contamination redistribution associated with pile driving efforts that disturb sediment in submerged lands. Such a sampling effort will require submittal of a sampling plan for EPA approval. Hence, the objectives of this proposal consist of three major elements that are progressive in nature. The first objective is to develop a Site Assessment Work Plan that will detail a sampling approach to address EPA's concerns. A necessary component of the work plan is to establish sample locations that are specifically chosen to address these concerns. Since this involves a knowledge of pile locations, then the anticipated pile locations will need to be determined as part of the work plan development. After work plan approval, the second objective is to complete the sampling effort. This will be followed by the third objective of developing a report that supports SJRF's effort to avoid CERCLA liability.

Scope of Work

Each of the major objectives outlined above are detailed as separate tasks below.

Task 1 – Site Assessment Work Plan. The Site Assessment Work Plan will present a site conceptual model that serves as a basis for selecting the number and locations of sediment samples. The work plan will also include a Sampling and Analysis Plan (SAP) along with a Quality Assurance Plan (QAP) as these are essential elements in any work plan submitted for EPA approval. In consideration of the anticipated scope of work, however, these three elements will be combined into one document as opposed to three documents as is customary for agency led projects.

In the absence of specific guidelines from EPA as to the level of detail for the site assessment, SJRF and TWE have tentatively agreed to limit the number of samples to eight total, four representing sediment in the main channel and four representing sediment where piles will be driven. If during work plan development, additional samples are recommended based on a review of existing sediment data, TWE will notify SJRF of this prior to submitting the first draft for SJRF's review. Locations for the first series of samples will be selected at key points where the San Jacinto River passes SJRF's barge docking area. These four samples will serve as the baseline results for subsequent sampling events scheduled to be conducted on an annual basis. The baseline samples along with results for the annual sampling events are intended to demonstrate that barge traffic is not suspending contaminated sediment that might be transported downstream.

For the second series of samples, a knowledge of pile locations will be necessary for selecting these sample locations. For this reason, TWE will define proposed pile locations concurrent with work plan development. Based on existing data, TWE anticipates that pile locations in the area between the SJRWP site and SJRF's mainland property have the greatest potential for dioxin impact and, therefore, will require sampling. As requested by SJRF, all proposed pile locations, in addition to those being sampled, will be determined. The benefit of this is any proposed locations found to be at sample sites where previous studies show elevated dioxin concentrations can be addressed in the Work Plan. The objective of the second series of

samples is to demonstrate that pilings are not at locations where elevated dioxins occur and could be carried down in the sediment column. At this stage, however, the determination of pile locations will be done in the office and will be based on reference point provided by SJRF. Field confirmation of these locations will be completed under Task 2 detailed below.

In addition to defining the number and location of samples, the Work Plan will also detail field sampling methodology, analytical methods, quality control methods and end use of the data. The section on sampling methodology will propose sampling equipment that is designed to overcome difficulties associated with loose, unconsolidated, wet sediment. Conventional methods are generally not effective in a riverine environments and will need to be modified or new methods developed to collect representative samples.

The draft work plan will be submitted to SJRF for review and comment. Upon incorporating SJRF's comments, the Work Plan will be submitted to EPA for review and approval.

Task 2 – EPA Meeting. The limiting factor in completing the site assessment in a timely manner is EPA's approval of the Work Plan. TWE does not recommend proceeding without EPA approval of the Work Plan as they may find deficiencies that could result in remobilization costs, extended analytical turn-around times, and an overall delay in issuance of the Order. While SJRF has included plans for an EPA meeting, TWE recommends that the meeting be scheduled after the Work Plan has been submitted in order to facilitate the approval process. Face to face meetings are beneficial in that the back and forth exchange that occurs over a period of weeks in normal circumstances can be consolidated into a single event with conditional approval given on the basis of concurrence reached on all points raised by the agency in a meeting environment.

Task 3 – Field Activities. Because of the nature of EPA's concerns, the second objective comprises two components. One component is to collect a series of samples that will serve as a baseline for a sediment monitoring program that will be implemented after barge operations commence. Based on discussions with SJRF, TWE recommends collecting four sediment samples from the main river channel to represent each of the following key areas:

- upstream of SJRF's operations to serve as background;
- along the area of access/egress for barges going into the exposed land dock;
- immediately adjacent to the proposed submerged land dock that just off the main channel; and,
- immediately downstream of SJRF's operations.

In order to collect these samples, SJRF has committed to providing a barge that will be positioned at each location. Sampling will be conducted from the side of the barge using sampling equipment designed for soft, loose sediment. Sampling equipment design will be described in the Work Plan. Also safety concerns with sampling from the side of a barge will be

addressed in the Work Plan. Field personnel will consist of senior environmental technicians that have the requisite hazmat and safety training required by OSHA.

The second component of the field investigation is to collect a series of sediment samples at locations where piles will be driven. As numerous piles are planned along lines traversing several areas, TWE proposes to select only a few representative locations. Prior investigations have shown that much of the area where these pile will go is largely devoid of dioxin impact. One area with a greater risk of impact occurs between SJRF's exposed land property and the SJRWP superfund site. The number of pilings that SJRF has planned for this area is minimal and can probably be addressed with a series of four sediment samples that will represent two lines of pilings traversing this area. As with the channel samples, TWE will use boats and/or barges provided by SJRF as sampling platforms.

All of the sediment samples collected from the San Jacinto River will be analyzed for dioxins by EPA method 8290A. Typically for any analytical program under agency scrutiny, quality control samples in the form of duplicates and blanks are required to make the data defensible. For this project, a minimum of one duplicate sample will be collected from one of the eight sediment samples and a decontamination rinsate blank will be collected to demonstrate that there was no carryover from one sample to another in the event that dioxins are detected. This yields a total of 10 samples that will be analyzed for dioxins.

Task 4 – Reporting and Project Management. Upon receipt of analytical data, TWE will prepare a report stating the findings of the investigation. Included in the report will be conclusions regarding the likelihood that barge operations will further the spread of dioxin contamination released from the SJRWP site. Recommendations regarding modifications to the barge docking design will also be provided if the data supports such a recommendation.

Schedule

TWE can begin on Work Plan development within one to two days following authorization to proceed. Upon approval by SJRF, the draft final Work Plan will be submitted to EPA at which time SJRF or TWE will contact EPA to schedule a meeting. The Work Plan approval process at this point in time will be a function of EPA's schedule and cannot be predicted or controlled from this end. Optimally, EPA will have a vested interest in approving the Work Plan and proceeding with the investigation. Once approved, we can mobilize to the field within two or three days and complete the field activities within three days of mobilization. A draft report will be issued to SJRF within a week of receiving analytical results and then a draft final will be submitted to EPA within a week of receiving comments and changes from SJRF.

Proposed Project Costs

The proposed budget for the scope of work as proposed is as follows.

Work Plan Development	\$5,700
EPA Meeting	\$3,200
Field Sampling Effort (labor & equipment)	\$9,380
Analytical (expedited 1 wk TAT)	\$11,980
Reporting and Project Management	\$10,810
10% Contingency (unanticipated events)	<u>\$4,110</u>
Total Price	\$45,180

Note, if normal analytical turn-around times are used for dioxins (3 weeks), the analytical cost reduces to **\$6,850** and project total reduces to **\$40,050**.

Limitations

The proposed tasks presented above, including the Scope of Work and schedule, are contingent upon the following assumptions:

- TWE will have necessary access to the site.
- SJRF will provide TWE with coordinate information for calculating proposed pile locations.
- Key site features will be clearly marked or readily identifiable using drawings and/or exhibits provided by SJRF.
- Price includes one meeting with EPA, but does not include subsequent negotiations with regulatory agencies and other third parties or work that is additional to the tasks outlined above.

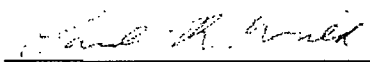
The cost for conducting these efforts will be billed according to TWE's standard fee schedule (attached).

Mr. Brian Darnell
TWE Proposal No. P11-E078
October 13, 2011
Page 6

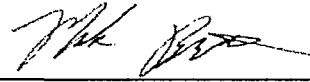
Closing Remarks

Should this proposal be acceptable please sign below, make a copy for yourself, and return to TWE. If you have any questions or need additional information, please contact me at (713) 722-7064 or by e-mail at **mbrotherton@tweinc.com**. We at TWE look forward to providing our services to you and the successful completion of this project.

Sincerely,
Tolunay-Wong Engineers, Inc.



Paul Wild
Vice President
Environmental Services Division



Mark Brotherton
Sr. Project Manager
Environmental Services Division

TWE PROPOSAL NUMBER: P11-E078
PROPOSAL ACCEPTANCE BLOCK:

San Jacinto River Fleet, L.L.C.

Authorized Representative: _____

Printed Name: _____

Date: _____

Attached: TWE Fee Schedule
Terms for Professional Services

Tolunay-Wong Engineers, Inc.

2011 Schedule of Fees – Houston Office

<u>Staff</u>	<u>Unit Rates</u>
Principal.....	\$185/hr
Senior Consultant.....	180/hr
Consultant.....	170/hr
Senior Project Manager.....	155/hr
Project Manager.....	135/hr
Senior Professional.....	110/hr
Project Professional.....	100/hr
Staff Professional.....	85/hr
Certified Welding Inspector.....	85/hr
Senior Technician.....	80/hr
Technician, Level III.....	64/hr
Technician, Level II.....	51/hr
Technician, Level I.....	48/hr
Computer-Aided Draftsman (CAD).....	65/hr
Administrative Assistant.....	48/hr
Aide.....	37/hr

Transportation and Owned Equipment

Vehicle (within 60-mile radius).....	\$60/trip
Mileage (over 60-mile radius).....	0.60/mi
Generator.....	30/day
Air Compressor.....	30/day
Nuclear Density Gauge.....	50/day
Handheld GPS Receiver.....	45/day
Concrete Pulse Velocity Equipment.....	175/day
Concrete Rebound Hammer.....	50/day
Pile Driving Analyzer (PDA).....	600/day
Pile Integrity Tester (PIT).....	300/day
Dynamic Cone Penetrometer.....	125/day
Slope Inclinator Equipment.....	75/day
Vibrating Wire Data Recorder.....	120/day
Water Level Indicator.....	30/day
Survey Level.....	60/day
Field Vane Shear Tester (hand-held).....	50/day
Downhole Vane Shear Device.....	400/day

Geotechnical Laboratory Testing

Index Tests:

Water Content (ASTM D 2216).....	\$7.00/ea
Visual Classification (ASTM D 2488).....	6.00/ea
Water Content and Visual Classification (ASTM D 2216, ASTM D 2488).....	10.00/ea
Plastic and Liquid Limits, 1-Point Method (ASTM D 4318).....	45.00/ea
Plastic and Liquid Limits, 3-Point Method (ASTM D 4318).....	60.00/ea
Liquid Limit Only (ASTM D 4318).....	35.00/ea
Density (ASTM D 2937, ASTM D 7263).....	14.00/ea
Specific Gravity of Soil (ASTM D 854).....	50.00/ea

*Grain-Size Tests:*

Sieve Analysis, Through No. 200 Sieve (ASTM D 422)	\$45.00/ea
Additional Sieves Finer Than No. 200	8.00/ea
Percent Finer Than No. 200 Sieve (ASTM D 1140)	35.00/ea
Complete Grain Size Analysis including Hydrometer (ASTM D 422)	100.00/ea

Dispersive Soil Tests:

Double Hydrometer (ASTM D 4221)	\$150.00/ea
Pinhole Dispersion (ASTM D 4647)	175.00/ea
Crumb Test (ASTM D 6572)	15.00/ea

Permeability Tests:

Constant Head Permeability (granular soils) (ASTM D 2434)	\$110.00/ea
Hydraulic Conductivity (cohesive soils) (ASTM D 5084)	250.00/ea
Long-Term Permeability Testing (greater than 7 days)	30.00/day

Shrinkage Tests:

Linear (Bar) Shrinkage (Tex-107E, ASTM D 4943)	\$36.00/ea
Volumetric Shrinkage (ASTM D 4943)	35.00/ea

Other Tests:

Organic Content (Ignition Method) (ASTM D 2974)	\$35.00/ea
Calcium Carbonate (ASTM D 4373)	25.00/ea
Electrical Resistivity (ASTM G 57, ASTM G 187)	40.00/ea
Thermal Conductivity (ASTM D 5334)	160.00/ea
pH (water) (EPA 150.1)	15.00/ea
pH (soil) (ASTM G 51, ASTM D 4972, EPA 9045D)	30.00/ea
Lime Series (Optimum Lime Content) – Plasticity Index Method (ASTM D 4318)	260.00/ea
Lime Series (Optimum Lime Content) – pH Method (ASTM D 6276, ASTM C 977)	175.00/ea
Soil Suction	10.00/ea

Strength Tests:

Hand Penetrometer	\$3.00/ea
Torvane	3.00/ea
Unconfined Compression - Soil (ASTM D 2166)	35.00/ea
Unconfined Compression – Stabilized Soils (ASTM D 1633)	35.00/ea
Unconfined Compression – Rock (ASTM D 7012) (includes preparation)	270.00/ea
Unconsolidated-Undrained Triaxial Compression (ASTM D 2850)	55.00/ea
Consolidated-Undrained Triaxial Compression with Pore Water Pressure (ASTM D 4767)	260.00/ea
Consolidated-Undrained Triaxial Compression – Multi-Staged (three specimens) (ASTM D 4767)	550.00/ea
Consolidated-Drained Triaxial Compression (granular soils) (EM 1110-2-1906)	325.00/ea
Consolidated-Drained Triaxial Compression (cohesive soils) (EM 1110-2-1906)	550.00/ea
Consolidated-Drained Direct Shear (ASTM D 3080)	300.00/ea
Consolidated-Drained Direct Shear – Multi-Specimen (three specimens) (ASTM D 3080)	600.00/ea
Miniature Vane Shear (ASTM D 4648)	20.00/ea

Volume Change Tests:

One-Dimensional, Incremental Loading Consolidation (ASTM D 2435)	\$375.00/ea
with intermediate rebound and reload	475.00/ea
additional load increments greater than 32 ksf	35.00/ea
Constant Rate of Strain Consolidation (ASTM D 4186)	500.00/ea
Free Swell	50.00/ea
Percent Swell (ASTM D 4546)	100.00/ea
Percent Swell and Swell Pressure (ASTM D 4546)	185.00/ea
Collapse Potential (ASTM D 5333)	350.00/ea

*Test Variations:*

Sample Preparation - Admixtures	\$50.00/ea
Hand Trimming Samples	20.00/ea
Special Processing and Slaking of Soil	35.00/ea
Corrosive or Reactive Test Fluids - add	100.00/ea
Extrude Tube Samples and Visual Classification (ASTM D 2488)	25.00/ea
Sample Tube Cutting	15.00/cut
Mohr's Diagram Plot	20.00/ea
Stress-Strain Plot	15.00/ea
Confining Pressure Greater Than 140 psi	30.00/ea
Sample Capping	20.00/ea
Sample Compaction	40.00/ea

Construction Materials Laboratory Testing*Earthwork Tests:*

Standard Compaction (Proctor) Effort (ASTM D 698)	\$140.00/ea
Modified Compaction (Proctor) Effort (ASTM D 1557)	160.00/ea
TxDOT Compaction Test (Tex-113E)	160.00/ea
Sample Preparation – Oversized Material	40.00/ea
Sample Preparation – Soil Admixture	45.00/ea
Sample Preparation – Large Mold (6 inch)	25.00/ea
California Bearing Ratio (ASTM D 1883)	125.00/ea
TxDOT Triaxial Series (five specimens) (Tex-117E)	300.00/ea

Concrete Tests:

Concrete Mixture Verification	\$325.00/ea
Compression of Concrete Cylinders (ASTM C 39)	
Specimens by TWE (including reserve specimens)	17.00/ea
Specimens by Others (minimum four specimens)	23.00/ea
Flexural Strength of Concrete Beams (includes reserve specimens) (ASTM C 78, ASTM C 293)	26.00/ea
Concrete Cores	
Concrete Coring	90.00/ea
Concrete Coring (minimum charge)	290.00/trip
Core Length (ASTM C 174)	15.00/ea
Core Compressive Strength (ASTM C 42)	40.00/ea
Compressive Strength of Grout Cylinder or Cube (ASTM C 109)	25.00/ea
Compressive Strength of Grout Prism (ASTM C 1019)	30.00/ea
Compressive Strength of Lightweight Concrete (ASTM C 495)	30.00/ea
Density of Lightweight Concrete (ASTM C 567)	20.00/ea

Aggregate Tests:

Sieve Analysis	
Coarse Aggregate (ASTM C 136)	\$46.00/ea
Fine Aggregate (ASTM C 136)	46.00/ea
Material Finer Than No. 200 Sieve (ASTM C 117)	45.00/ea
Specific Gravity and Absorption	
Coarse Aggregate (ASTM C 127)	45.00/ea
Fine Aggregate (ASTM C 128)	48.00/ea
Unit Weight and Voids (ASTM C 29)	35.00/ea
Organic Impurities (ASTM C 40)	45.00/ea
Clay Lumps and Friable Particles (ASTM C 142)	50.00/ea
Lightweight Pieces (ASTM C 123)	55.00/ea
Sulfate Soundness (ASTM C 88)	330.00/ea
LA Abrasion (ASTM C 131, ASTM C 535)	185.00/ea
Sand Equivalent (ASTM D 2419)	56.00/ea
Slake Test (Tex-102E)	20.00/ea

*Asphalt Tests:*

Mix Design Review	\$187.00/ea
Asphalt Cores	
Asphalt Coring	80.00/ea
Asphalt Coring (minimum charge)	290.00/trip
Core Length	12.00/ea
Core Bulk Density (ASTM D 2726)	50.00/ea
Molding of Hveem Specimens – Gyratory Method (three specimens/set) (Tex-206F)	54.00/set
Hveem Stability (three specimens/set) (ASTM D 1560, Tex-208F)	82.00/set
Extraction/Gradation – Solvent Method (ASTM D 2172)	234.00.ea
Extraction/Gradation – Ignition Method (Tex-236F)	234.00.ea
Specific Gravity (ASTM D 1188, Tex-207F)	62.00/ea
Maximum Theoretical Specific Gravity (ASTM D 2041, Tex-227F)	80.00/ea
Asphalt Content by Ignition Method (ASTM D 4125, Tex-236F)	70.00/ea

Terms

1. Rates for personnel participating in legal assignments will be invoiced at 1.5 times the standard rates.
2. Overtime rates for field personnel are applicable for all hours worked in excess of 8 hours per day, weekends, and holidays and are assessed at 1.5 times the standard rates.
3. Field personnel and equipment are assessed on a portal-to-portal basis, with a minimum call-out charge of 4 hours.
4. All expenses such as consultant fees, delivery services, equipment rental, outside reproduction services, subcontractor services, supplies, and travel including air fare, car rental, per diem, etc., will be assessed at cost plus 15 percent.
5. Invoices are due and payable within 30 days of date of invoice. Invoices are delinquent if payment has not been received within 30 days from date of invoice and are subject to additional charges.
6. Laboratory testing that is requested on an expedited basis will be subject to a 50 percent surcharge.
7. Contaminated samples that require special handling will be subject to a 100 percent surcharge. Client will be responsible for the proper disposal of contaminated samples.
8. All samples will be discarded at least 90 days after completion of report, unless directed otherwise by Client in writing.

EXHIBIT A

TERMS FOR PROFESSIONAL SERVICES

THE AGREEMENT

This AGREEMENT is made by and between TOLUNAY-WONG ENGINEERS, INC., hereinafter referred to as CONSULTANT, and the CLIENT of the attached PROPOSAL. This AGREEMENT between the parties consists of these TERMS, the attached PROPOSAL and any exhibits or attachments noted in the PROPOSAL will constitute the entire AGREEMENT. Any changes to this AGREEMENT must be mutually agreed to in writing.

STANDARD OF CARE

The CLIENT recognizes that subsurface conditions vary from those observed at locations where borings, surveys, or explorations are made, and that site conditions may change with time. Data, interpretations, and recommendations by the CONSULTANT will be based solely on information available to the CONSULTANT. The CONSULTANT is responsible for those data, interpretations, and recommendations, but will not be responsible for other parties' interpretations or use of the information developed.

Services performed by the CONSULTANT under this AGREEMENT are expected by the CLIENT to be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession practicing contemporaneously under similar conditions in the locality of the project. No other warranty, expressed or implied, is made.

SITE ACCESS AND SITE CONDITIONS

CLIENT will grant or obtain free access to the site for all equipment and personnel necessary for the CONSULTANT to perform the work set forth in this AGREEMENT. The CLIENT will notify any and all possessors of the project site that CLIENT has granted CONSULTANT free access to the site. The CONSULTANT will take reasonable precautions to minimize damage to the site, but it is understood by CLIENT that, in the normal course of work, some damage may occur and the correction of such damage is not part of this AGREEMENT unless so specified in the PROPOSAL.

SAMPLE DISPOSAL

The CONSULTANT will dispose of all soil and rock samples 30 days after submission of report covering those samples. Further storage or transfer of samples can be made at Client's expense upon CLIENT'S prior written request. All hazardous materials will be returned to CLIENT for disposal, unless other arrangements have been made by CLIENT.

CONSTRUCTION MONITORING

If the CONSULTANT is retained by the CLIENT to provide a site representative for the purpose of monitoring specific portions of the construction work as set forth in the PROPOSAL then this phrase applies. For the specified assignment, the CONSULTANT will report observations and professional opinions to the CLIENT. No action of the CONSULTANT or CONSULTANT's site representative can be construed as altering my AGREEMENT between the CLIENT and others. The CONSULTANT will report any observed work to the CLIENT which, in the CONSULTANT's professional opinion, does not conform to plans and specifications. The CONSULTANT has no right to reject or stop work of any agent of the CLIENT. Such rights are reserved solely for the CLIENT. Furthermore, the CONSULTANT's presence on site does not in any way guarantee the completion or quality of the performance of the work of any party retained by the CLIENT to provide construction related services.

The CONSULTANT will not be responsible for and will not have control or charge of specific means, methods, techniques, sequences or procedures of construction selected by any agent or AGREEMENT of the CLIENT, or safety precautions and programs incident thereto.

BILLING AND PAYMENT

CLIENT will pay CONSULTANT the lump sum amount indicated in the PROPOSAL or, if no lump sum amount is indicated, in accordance with the Schedule of Fees, as shown in the PROPOSAL and its attachments. Invoices will be submitted to CLIENT by CONSULTANT, and will be due and payable within 30 days of date of invoice. If CLIENT objects to all or any portion of any invoice, CLIENT will so notify CONSULTANT in writing within fourteen (14) calendar days of the invoice date, identify the cause of disagreement, and pay when due that portion of the invoice not in dispute. The parties will immediately make every effort to settle the disputed portion of the invoice. In the absence of written notification described above, the balance as stated on the invoice will be paid.

Invoices are delinquent if payment has not been received within thirty (30) days from date of invoice. CLIENT will pay an additional charge of 1-1/2 (1.5) percent per month (or the maximum percentage allowed by law, whichever is lower) on any delinquent amount, accepting any portion of the invoiced amount in dispute and resolved in favor of CLIENT. Payment thereafter will first be applied to accrued interest and then to the principal unpaid amount. All time spent and expenses incurred (including any attorney's fees) in connection with collection of any delinquent amount will be paid by the CLIENT to CONSULTANT per CONSULTANT's current fee schedule. In the event CLIENT fails to pay CONSULTANT within sixty (60) days after invoices are rendered, CLIENT agrees that CONSULTANT will have the right to consider the failure to pay the CONSULTANT's invoice as a breach of this AGREEMENT.

TERMINATION

The AGREEMENT may be terminated by either party seven (7) days after written notice. In the event of termination, CONSULTANT will be paid for services performed prior to the date of termination.

INDEMNIFICATION

Except for the gross negligence or intentional misconduct of the CONSULTANT, CLIENT will indemnify and hold the CONSULTANT harmless from any claim by or liability from a third party for injury or loss, arising out of the CONSULTANT's performance of the services described in this AGREEMENT. This indemnity shall not limit, restrict or prevent CLIENT from asserting any claims for liability against the CONSULTANT, under any one or more theories of recovery, including breach of contract, negligence, strict or statutory liability or any other cause of action

LIMITATION OF LIABILITY

The CLIENT will limit any and all liability or claim for damages, cost of defense, or expenses to be levied against CONSULTANT to a sum not to exceed \$50,000, or the amount of this fee, whichever is greater, on account of any design defect, error, omission, or professional negligence. The CLIENT agrees to notify any contractor who perform work in connection with the study prepared by the CONSULTANT of such limitation of liability and require a like limitation on their part in favor of the CONSULTANT. In the event the CLIENT fails to obtain a like limitation of liability provision, the liability of the CLIENT and the CONSULTANT to such contractor shall be allocated between the CLIENT and the CONSULTANT such that the aggregate liability of the CONSULTANT to all parties, including the CLIENT, shall not to exceed \$50,000 or the amount of the CONSULTANT's fee, whichever is greater. The CONSULTANT makes no warranties, either expressed or implied, except as set forth above.

DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

CLIENT warrants a reasonable effort to inform CONSULTANT of known or suspected hazardous materials on or near the project site. Hazardous materials may exist at a site where there is no reason to believe they could or should be present. CONSULTANT and CLIENT agree that the discovery of hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. CONSULTANT and CLIENT also agree that the discovery of hazardous materials may make it necessary for CONSULTANT to take immediate measures to protect health and safety. CLIENT agrees to compensate CONSULTANT for any equipment decontamination or other costs incident to the discovery of hazardous waste.

CONSULTANT agrees to notify CLIENT when hazardous materials or suspected hazardous materials are encountered. CLIENT agrees to make any disclosures required by law to the appropriate governing agencies. CLIENT also agrees to hold CONSULTANT harmless for any and all consequences of disclosure made by CONSULTANT which are required by governing law. In the event the project site is not owned by CLIENT, CLIENT recognizes that it is the CLIENT's responsibility to inform the property owner of the discovery of hazardous materials or suspected hazardous materials.

Notwithstanding any other provisions of the AGREEMENT, CLIENT waives any claim against CONSULTANT, and to the maximum extent permitted by law, agrees to defend, indemnify, and save CONSULTANT harmless from any claim, liability, and/or defense costs for injury or loss arising from CONSULTANT's discovery of hazardous materials or suspected hazardous materials including any costs created by delay of the project and any costs associated with possible reduction of the property's value. CLIENT will be responsible for ultimate disposal of any samples secured by the CONSULTANT which are found to be contaminated.

GOVERNING LAW AND SURVIVAL

The law of the State of Texas will govern the validity of these TERMS, their interpretation and performance. If any of the provisions contained in this AGREEMENT are held illegal, invalid, or unenforceable, the enforceability of the remaining provisions will not be impaired. Limitations of liability and indemnities will survive termination of the AGREEMENT for any cause.

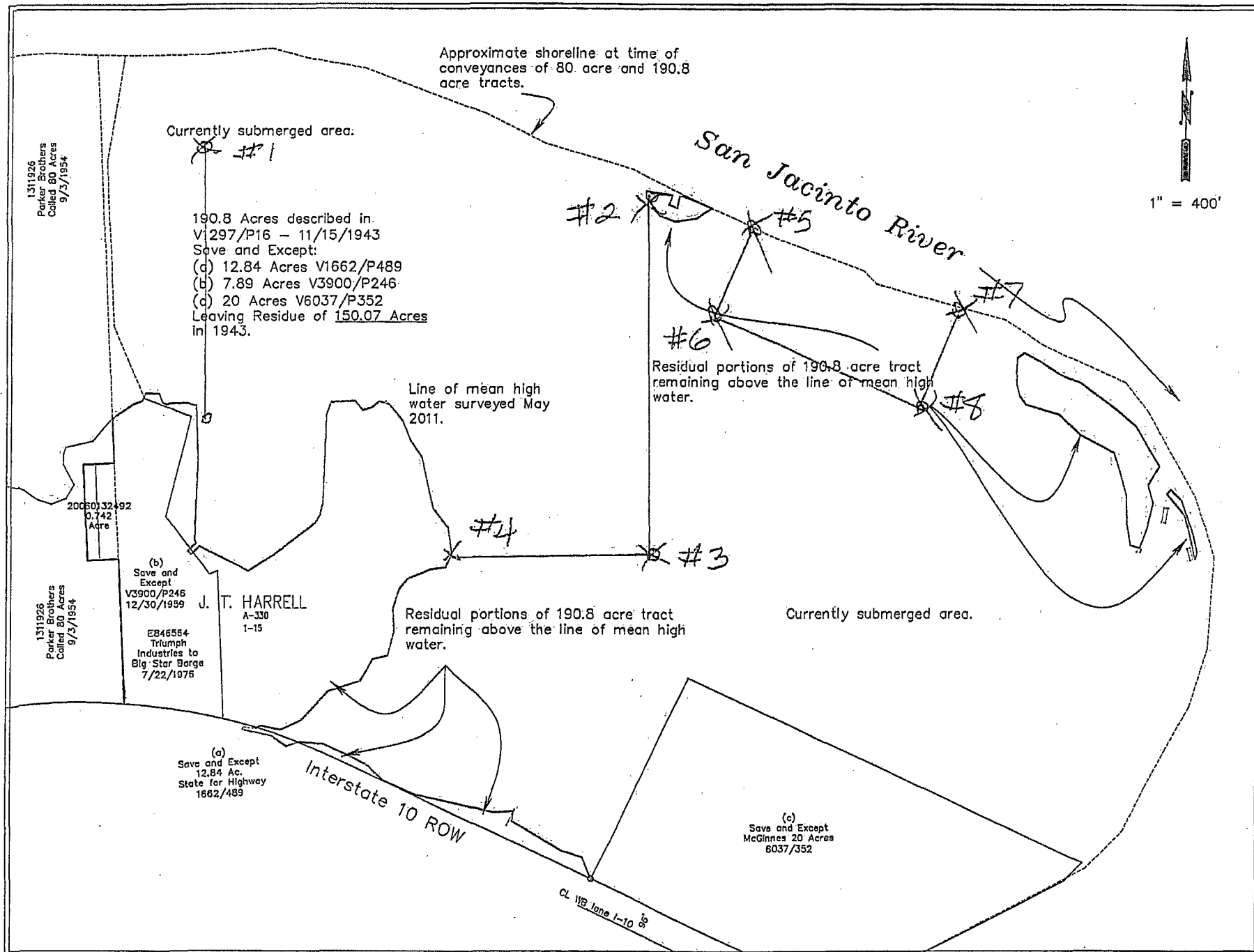


EXHIBIT 3

401 Congress Avenue
Suite 2100
Austin, Texas 78701

512.370.2800 OFFICE
512.370.2850 FAX
winstead.com

direct dial: 512.370.2806
aaxe@winstead.com

Certified Article Number

7196 9008 9040 0646 0762

SENDERS RECORD

Certified Article Number

7196 9008 9040 0646 0830

SENDERS RECORD

December 20, 2011

Anne Foster
U.S. Environmental Protection Agency, Region 6
Superfund Division (6RC-S)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Via Certified Mail Return Receipt Requested

Jessica Hernandez
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Via Certified Mail Return Receipt Requested

Re: San Jacinto River Waste Pits Superfund Site

Dear Anne and Jessica:

This letter and the attached Anchor QEA report dated December 2011 ("Anchor Report" – see Exhibit A) are being submitted to the United States Environmental Protection Agency ("EPA") Region 6 on behalf of Respondents, McGinnes Industrial Maintenance Corporation ("MIMC") and International Paper Company ("International Paper") (hereinafter collectively referred to as "Respondents") to provide documentation regarding the activities of three companies – Big Star Barge & Boat Company, Inc. ("Big Star"), Houston International Terminal, Inc. ("HIT") and MegaSand Enterprises, Inc. ("MegaSand") – at, or in the vicinity of, the San Jacinto River Waste Pits Superfund Site ("Site"). This submission is being made pursuant to our prior discussion with you in order to explain why these companies should be designated as Potentially Responsible Parties ("PRPs") at the Site pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). Much of the information provided as part of this letter was submitted to EPA previously, first in a presentation made to EPA in August 2009 and on several occasions during the course of efforts to obtain access to the property then owned by Big Star and now owned by San Jacinto River Fleet, LLC ("SJRF") that is located west of the waste impoundments at the Site.

The Anchor Report demonstrates that the dredging activity conducted by and for Big Star, HIT and MegaSand (collectively referred to herein as the "Dredging PRPs") has had a

significant impact on the Site. The technical information presented in the Anchor Report demonstrates that the Dredging PRPs' dredging activity (i) undercut the levee on the northwest corner of the Site surface impoundments, (ii) conveyed wastes (and other materials such as sand, silts, and clays located beneath and in the impoundments) from the impoundments via a dredge pipe to Big Star's dry land property where sand separation activities were carried out, creating a "hot spot" of dioxin contamination at the water/land interface along the northeast corner of the Big Star dry land property, and (iii) compromised the integrity of the levees on the north, northeast and east sides of the Site surface impoundments by creating a new preferential pathway for the river which then produced a scour channel along the north, northeast and east sides of the Site, further eroding the impoundment levees.

In addition to the Anchor Report, the designation of Big Star, HIT and MegaSand as PRPs is supported by the following:

1. Information from U.S. Army Corps of Engineers Files and CERCLA §104(e) Responses

We have reviewed the U.S. Army Corps of Engineers ("Corps") file on HIT Permit No. 19284. This file relates to the dredging of sand in the area between Big Star's dry land peninsula and the Site impoundments and the area to the north of such impoundments.

These records show that HIT obtained a sand dredging permit (No. 19284) from the Corps on May 11, 1992 (for a term to expire on December 31, 1995), and subsequently obtained extensions of the term of Permit No. 19284 on December 21, 1995 (extension to December 31, 1999), January 23, 2003 (extension to December 31, 2008) and December 27, 2007 (extension to December 31, 2013, at which time a new permit designation – Department of the Army (DA) SWG-2007-01865 – was assigned to the permit) (*see* attached Exhibits B-1, B-2, B-3 and B-4). Permit No. 19284 was also modified by the Corps on September 27, 1996 (*see* Exhibit B-5). This permit was later suspended by the Corps pursuant to a letter dated May 18, 2009 due to the suspension of the 401 Water Quality Certification for DA Permit SWG-2007-01865, as a result of concerns about re-suspension of sediments and dioxin contamination (*see* Exhibit B-6).

The dredging permit was obtained by HIT based on its representation that it owned the property where sand dredging was to be conducted (*see* the attached HIT application dated December 7, 1990, marked as Exhibit C). In fact, a review of Harris County property records has shown that HIT never held title to property in this area (or anywhere else). Rather, title to the property that HIT claimed was actually (at least prior to its inundation by the San Jacinto River) in the name of Big Star, HIT's sister corporation. Big Star and HIT admitted this in response to Question No. 8 of EPA's CERCLA §104(e) requests for information sent to both companies (*see* attached responses to information requests, marked as Exhibits D-1 and D-2). The property records included as a part of Exhibit D-1 indicate that the property immediately to the north and west of the tract on which the Site waste impoundments are located ("Tract"), including the dry land peninsula located to the west of the Site impoundments, was owned by Big Star. The bulk of the property was purchased on August 27, 1980 (including all the property

where the sand dredging activities occurred). HIT, however, signed the recently recorded deed conveying the Big Star property to SJRF, with the deed document stating that HIT was doing so in order to convey whatever interest it might have in the property (*see* attached copy of the deed marked as Exhibit E).

Permit No. 19284 contained a map showing the area in which HIT was authorized to dredge (*see* attached Exhibit B-1). This dredging area did not extend to the Tract. Moreover, based on the transcript of the recorded statement given by Captain Jack Roberts, then President of both HIT and Big Star, to Ms. Barbara Aldridge of EPA Region 6, dated November 14, 2005, Captain Roberts had actual knowledge of the waste disposal operations that had been conducted on the Tract (*see* attached Exhibit F, p. 10, lines 1-6). Captain Roberts also stated that he had knowledge of the waste disposal activities in a letter he wrote to EPA dated June 2, 2005 (*see* attached Exhibit G). Thus, Captain Roberts, as president of both HIT and Big Star, knew that the dredging activities could impact the waste impoundments, particularly if the dredging activities extended beyond the permitted boundary of such activities.

The Corps' records also show that MegaSand dredged sand pursuant to Permit No. 19284, under contract with HIT (*see* attached Exhibits H-1, H-2 and H-3). A copy of the contract between HIT and MegaSand was obtained by EPA pursuant to its 104(e) request to HIT (*see* attached Exhibit D-2). MegaSand also admitted dredging in the vicinity of the Site impoundments in its response to Question 5 of the CERCLA §104(e) request for information sent to it by the EPA (*see* Exhibit I).

2. Impact of Dredging Activity on Areas to the North and West of the Site Waste Impoundments

Based on aerial photographs of the Tract and surrounding areas taken in 1966, 1995, 1998 and 2002, and as explained in the Anchor Report (*see* Figures 2-5 of the Anchor Report), it appears that the levees surrounding the Site waste impoundments were intact until dredging commenced west and north of the impoundments pursuant to HIT Permit No. 19284 in late 1997.

The aerial photographs show that by the time the 1998 aerial photograph (Anchor Report, Figure 4) was taken, a portion of the levee along the northwest portion of the Site waste impoundments had been knocked down. As discussed in the Anchor Report, bathymetric surveys of the northwest corner of the Site waste impoundments show that dredge line cuts through this area of the impoundments. Thus, it is clear that the dredging activities conducted by the Dredging Parties in the late 1990's pursuant to HIT Permit No. 19284 resulted in the undercutting and collapse of portions of the perimeter levee in this area of the impoundments.

The Anchor Report also describes a sand separation operation that was located on the Big Star dry land property and describes how the dredging operation caused material from the Site waste impoundments to be transported via a dredge pipe to the Big Star dry land property, where

a hot spot of contamination was created. This activity appears to be associated with dioxin present in the San Jacinto River, as depicted on Figure 10 of the Anchor Report.

3. Impact of Dredging Activity on the North, Northeast and East Levees of the Site Waste Impoundments

As previously noted, based on the aerial photographs, the levees surrounding the Site waste impoundments were intact until dredging commenced in the late 1990's.

As described more fully in the Anchor Report, the aerial photographs and the bathymetric surveys show that not only did the dredging result in the collapse of the levee on the northwest corner of the impoundments, but that the dredging activity also resulted in the erosion and deterioration of the levees on the north, northeast and east sides of the impoundments. The attached Anchor Report explains how the dredging activity created a preferential channel that eroded away the levees in these locations (*see* Figures 7 and 8 of the Anchor Report and associated discussion).

4. Qualification of Big Star, HIT and MegaSand as PRPs

Big Star, HIT and MegaSand qualify as PRPs due to their dredging activities for the following reasons:

1. Big Star is a past owner of the property on which dredging and/or sand separation activities occurred. These activities occurred with Big Star's knowledge and consent as Big Star's president was also the president of HIT, which obtained the USACE permit for such activities.
2. Given the recently recorded deed (*see* Exhibit E) and HIT's representations regarding its ownership of the Big Star Property, HIT should also be considered a past owner of the Big Star property. In addition, HIT, as the permittee for the dredging activities in the area, is a past operator and an arranger for the disposal of waste from the Site waste impoundments onto the Big Star property.
3. MegaSand, the company that dredged the area, is an arranger, a transporter of the waste from the impoundments to the Big Star property, and an operator of the dredging equipment that undercut the levees of the impoundments.

Moreover, Big Star is not exempt from CERCLA liability under either of the exemptions that were previously raised by EPA counsel, Barbara Nann, in addressing Big Star's status. The reasons why Big Star is not exempt were explained in the attached email dated December 10, 2010, from the undersigned to Ms. Nann (*see* Exhibit J).

Anne Foster
Jessica Hernandez
U.S. Environmental Protection Agency, Region 6
December 20, 2011
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For the reasons set out above, International Paper and MIMC respectfully request that EPA provide notice to Big Star, HIT and MegaSand of their status as PRPs at the Site.

Please do not hesitate to call if you have any questions.

Sincerely,



Albert R. Axe, Jr.

Attachments

ARA/mr

cc:	Barbara Nann	<i>Via Electronic Mail</i>
	Gary Miller	<i>Via Electronic Mail</i>
	Valmichael Leos	<i>Via Electronic Mail</i>
	John Cermak	<i>Via Electronic Mail</i>
	Sonja Inglin	<i>Via Electronic Mail</i>
	David Keith	<i>Via Electronic Mail</i>

EXHIBIT A

IMPACT OF DREDGING ON THE SAN JACINTO RIVER WASTE PITS TIME CRITICAL REMOVAL ACTION SITE

Prepared for

McGinnes Industrial Maintenance Corporation
International Paper Company

Prepared by

Anchor QEA, LLC
614 Magnolia Avenue
Ocean Springs, Mississippi 39564

December 2011

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1 BACKGROUND AND OBJECTIVE

The San Jacinto River Waste Pits Superfund Time Critical Removal Action Site (TCRA Site) consists of a set of impoundments approximately 15.7-acres in size, built in the mid-1960s for disposal of paper mill wastes (Impoundments). The TCRA Site, as defined by U.S. Environmental Protection Agency (USEPA), also includes the surrounding areas containing sediments and soils potentially contaminated with the waste materials that had been disposed in the Impoundments. The Impoundments are located on a 20-acre parcel on the western bank of the San Jacinto River, in Harris County, Texas, immediately north of the Interstate Highway 10 (I-10) Bridge (Figure 1).

In 1965, the Impoundments were constructed by forming berms within the estuarine marsh, just north of what was then Texas State Highway 73 (now I-10), to the west of the main river channel. The two primary Impoundments at the TCRA Site were divided by a central berm running lengthwise (north to south) through the middle.

In 1965 and 1966, pulp and paper mill wastes were reportedly transported by barge and unloaded at the TCRA Site into the Impoundments. The wastes deposited in the Impoundments have been found to contain polychlorinated dibenzo-p-dioxins, polychlorinated furans (dioxins and furans), and some metals (TCEQ and USEPA 2006). Physical changes at the TCRA Site in the 1970s, 1980s, and 1990s, including regional subsidence of land in the area due to large-scale groundwater extraction and sand mining, within the River and marsh to the west and north of the Impoundments, resulted in the partial submergence of the berms and exposure of the contents of the Impoundments to surface waters.

Based on permit file reviews, aerial photograph interpretation, recent bathymetric survey results, and an evaluation of the distribution of dioxin in surface sediments surrounding the TCRA Site, sand mining-related dredging occurred in the vicinity of the perimeter berm at the northwest corner of the Impoundments in 1997.

The bathymetric data near the TCRA Site show water depths greater than 16 feet at the toe of the slope, along the northwestern shoreline of the Impoundments and in an area that prior

to any dredging activity was near zero elevation (an intertidal marsh when the Impoundments were constructed). The dredging activities that created the deep basin adjacent to the Impoundments today undermined and removed the impoundment berms in that area. The dredging north, northwest, and west of the TCRA Site also altered the path of the main flow channel of the river, creating a scour channel adjacent to the north and east containment berms of the TCRA Site. The change in flow appears to have contributed to the erosion of the north and east berms of the Impoundments.

This memorandum evaluates different lines of evidence that demonstrate that historical dredging and sand mining operations proximal to the TCRA Site adversely affected the TCRA Site physiography and released waste containing dioxins/furans that would have otherwise remained within the Impoundments. Information about the historical dredging and sand mining operations was obtained from records in U.S. Army Corps of Engineers (USACE) files, including USACE-approved dredging permits and associated correspondence. Documents from the USACE files indicate that dredging by third parties occurred in the vicinity of the perimeter berm at the northwest corner of the TCRA Site Impoundments as late as 2001. Relevant documents from the USACE files are included in the attached Appendix A.

The lines of evidence that show the impact of the dredging and sand mining operation are:

- Changes in the physical state of the TCRA Site evident from aerial photographs.
- Aerial photographic evidence of dredging operations and sand separation activities at the property formerly owned by Big Star Barge & Boat Company, Inc. (Big Star property) located west of the TCRA Site.
- Bathymetric data that show the extent of dredging at the TCRA Site based on the identification of abrupt dredge cut escarpments in the area surrounding and within the TCRA Site.
- The presence of the highest observed concentrations of dioxins/furans found outside of the TCRA Site Impoundments coincident with discharges observed in aerial photographs of the Big Star property in sediment datasets collected by TCEQ in 2005 and in the Remedial Investigation/Feasibility Study (RI/FS) by the Respondents (Anchor QEA and Integral 2010).

2 AERIAL PHOTOGRAPHIC OBSERVATIONS

Sequential review of aerial photographs covering the period from 1966 to 2002 (Figures 2 through Figure 6) indicate that, beginning in the late 1990s, dredging near and within parts of the TCRA Site compromised the integrity of the berms surrounding the TCRA Site, and caused significant changes to the river physiography in this area. Important observations from the aerial photographic review are provided below:

- On Figure 2 (1966 conditions), the integrity of the berms surrounding the Impoundments is clearly shown. Figure 2 also depicts evidence of early dredging in the area north and west of the TCRA Site, shown by the linear cuts into the marsh with leading arcs at the limits of dredging into the shoreline. The arcs are indicative of a dredge "swing" as it advances into the shoreline to mine materials, and similar features can be observed in more recent aerial photographs of the area. Typical sand dredging operations are described in the attached Appendix B.
- Figure 3 shows Site conditions in the year 1995. Important observations from this figure include: 1) the relatively straight western and northwestern shoreline of the Impoundments, 2) the straight shore line on the east side of the Big Star property to the west, and 3) the straight shore line along the Texas Department of Transportation (TxDOT) right-of-way north of I-10, between the TCRA Site and the Big Star property. Also of note is the submerged vegetation around the TCRA Site, the Big Star property, and the wetlands north and west of the TCRA Site. As shown in later aerial photographs and discussed below, these features are impacted and changed significantly by dredging operations that occurred between 1997 and 2002.
- Figure 4, an aerial photograph taken in 1998, shows a breach in the edge of the northwestern berm of the TCRA Site, apparently caused by undermining in this area by dredging. This photograph also shows significant changes on the Big Star property and the shoreline of the eastern side of the Big Star property. Note the alluvial fan-like deposit along the eastern shoreline of the Big Star property, in what appears to be a newly formed mass of intertidal sediment. In addition, a plume of turbid water is emanating from the new sediment mass.
- Site conditions in the year 2002 are shown on Figure 5. In this photograph, the original berm failure observed in 1998 (Figure 4) is exacerbated to approximately twice the previous size. It is also important to note that a substantial amount of

newly deposited sediment is present along the shoreline of the TxDOT right-of-way between the Big Star property and the TCRA Site. Based on our review of the USACE files for the sand dredging permit in this area, it is our understanding that mitigation along this shoreline was required as part of the USACE permitting process to offset dredging impacts. Also, and more importantly, there are several prominent arced dredge cut shapes, from the Big Star property to the Impoundments, further indicating degradation of the berm in the northwestern part of the Impoundments by dredging. Finally, tidal flow lines along the northeastern side of the Impoundments clearly bend around the Impoundments and into the navigation channel under the bridge, indicating that a new preferential flow path has formed in this area of the Impoundments. There is further evidence of channeling in this area in later aerial photographs, and in recent bathymetric data discussed below.

- Figure 6 shows an interpretation of possible dredging operations and impacts based on the 2002 aerial photograph, including dredge cut arcs and dredged material drainage/decant from a sand separation system to the River. All of the features on the Big Star property, and between the Big Star property and the Impoundments described above (see Figure 4 through Figure 6), are consistent with features that would be associated with dredging and sand mining operations.
- Figure 7 shows the conditions in 2009. The edge of the northern berms appear further degraded, potentially by changes in the local flow regime that resulted from dredging. Although the newly deposited sediment seen first in 2002 along the south shoreline between the TCRA Site and the Big Star property continues to be present, it appears that the use of the Big Star property for sand separation activities has ceased.
- In addition to the direct impacts to the Impoundment berm in the northwestern portion of the TCRA Site (resulting from physical removal of the TCRA Site berms by dredging), Figure 7 also shows that the dredging operations have undercut portions of the northern berms surrounding the TCRA Site. A new channelized bottom is apparent from just off of the central berm shoreline towards the eastern/southeastern area of the TCRA site (Figure 7). This feature indicates that the deeper water areas produced by the dredging apparently increased flow from the river over the area. This increase flow and its associated erosive forces likely caused further degradation

of the berms at the northern and eastern portions of the Impoundments. This feature is more apparent in bathymetric data discussed later in this memorandum and shown on Figure 8.

From these aerial photographs, it is apparent that dredging operations were conducted in the area between 1966 and 2002, with dredging approaching the TCRA Site as early as 1997. Concurrent with this dredging operation, sudden (i.e., not due to natural riverine processes that are much more gradual) degradation and breaching of the TCRA Site berms is evident, as well as relocation of a substantial amount of sediment, including redeposition of fine grained material from sand separation activities at the eastern edge of the Big Star property. In addition, it appears that an additional flow channel with higher velocity currents was created adjacent to the TCRA Site berms as a result of the dredging operation that began in the 1997 timeframe. This flow channel caused erosion of the berms surrounding the Impoundments.

3 BATHYMETRIC OBSERVATIONS

To further illustrate the extent of dredging adjacent to the TCRA Site, bathymetry from 2009 was overlain on the 2002 aerial photograph (Figure 8). The more tightly spaced bathymetric lines on this figure indicate steep slopes where the surface of the bottom of the river is changing very rapidly. It is readily apparent that a substantial depression was formed west of and adjacent to the TCRA Site. Especially noteworthy is the unnatural underwater escarpment between the TCRA Site and the Big Star property, as well as several arced dredge cuts. Dredging in this area undermined and removed the berms on the northwest side of the TCRA Site. This is confirmed by the sudden and abrupt slopes on the river bottom to the west, northwest, and parallel to the north shoreline of the TCRA Site, which are not natural slopes and occurred as a result of the dredging processes, described above and in Appendix B that began in the 1997 timeframe. Also evident from the bathymetry is the channelized bottom adjacent to the northeast and east portions of the TCRA Site, which is also associated with dredging activities.

To further illustrate the magnitude of the dredging that has occurred in this area, Figure 8 (2002 conditions and recent bathymetry) has been provided in reduced size on Figure 9, shown adjacent to the 1966 aerial photograph (provided earlier as Figure 2), the latter depicting the original flat topography in the same area as the dredging activity. Comparison of the conditions adjacent to and west of the TCRA Site from these two photographs enables easy identification of the substantial effects of dredging activities in this area. It should be noted that the emergent marsh areas that were at or near sea level after construction of the TCRA Site Impoundments (as shown in the 1966 aerial photograph), are now up to 20 feet deep adjacent to the TCRA Site. This drastic and varied change in elevation can only be explained by the removal of materials by the dredging operations documented in the USACE permit files.

4 CHEMICAL DATA

Chemical data provided in the draft Preliminary Site Characterization Report (PSCR) submitted to USEPA provides a third line of evidence that dredging adjacent to and near the TCRA Site has redistributed dioxins/furans that would have otherwise not been transported from the TCRA Site under natural conditions. Figures 6-11, 6-12, and 6-15 from the draft PSCR (Integral and Anchor QEA 2011) (attached as Appendix C) depict surface/subsurface sediment and soil data (nanograms per kilogram [ng/kg] dry weight) for dioxin/furan toxicity equivalents from on the TCRA Site and the surrounding area, including the Big Star property.

On Figure 6-11 provided in Appendix C, the only detection of dioxins/furans in intertidal sediment/soil outside the TCRA Site (or immediately adjacent to the original TCRA-Site berms) exceeding 100 ng/kg is on the northeast portion of the Big Star property (195 ng/kg). All other detections of dioxins/furans outside the TCRA Site (or immediately adjacent to the original TCRA Site berms) depicted on Figure 6-11 are more than approximately 80% less than the one 195 ng/kg detection on the Big Star property. This area of the Big Star property corresponds with the area of the sediment deposits that formed during sand mining and sand separation activities from 1997-2002, as shown in the aerial photographs discussed above (see Figure 4 through Figure 6).

On Figure 6-12 contained in Appendix C, which depicts surface sediment dioxin/furan data, only two detections of dioxins/furans exceeding 100 ng/kg are found outside the immediate vicinity of the TCRA Site Impoundments (121 and 153 ng/kg); these detections were in the northeast portion of the Big Star property. Similar to the distribution of dioxins/furans depicted on Figure 6-11, the remaining data on Figure 6-12 outside the immediate vicinity of the TCRA Site are at least 80% less than these two detections just offshore of the Big Star property. Again, these areas are coincident with sediment deposits that formed off of the Big Star property during sand mining and sand separation activities discussed above (see Figures 4-6).

Finally, on Figure 6-15 (subsurface core data) in Appendix C, the only detections of dioxins/furans outside the TCRA Site exceeding 100 ng/kg are also at the northeast portion of

the Big Star property. These particular detections are found at 0-1, 3-4, and 5-6 feet below grade, and are in the portion of the Big Star property that was apparently used for discharging fine grained materials from the sand separation activities back to the river (see Figure 4 and Figure 6).

In summary, the dioxin/furan data shown on Figures 6-11, 6-12, and 6-15 of the Draft PSCR (provided in Appendix C) indicate an anomalous presence of elevated concentrations of dioxins/furans at the northeast portion of the Big Star property (coincident with the historic sand separation and sediment dewatering operations in this area based on the aerial photograph record). Both upstream and downstream concentrations of dioxins and furans for the same matrices are far less (i.e., ~80% less) than those noted on, and adjacent to, the Big Star property. Finally, as an additional visual aid illustrating the general distribution of TEQs in the area and supporting the data and conclusions provided above, Figure 10 provides 2005 TEQ data in surface sediments. These older data are consistent with the newer data described above and also show the highest levels of TEQs outside the impoundments as being present on the Big Star property.

5 SUMMARY AND CONCLUSIONS

The aerial photographs, permits review, and the bathymetric and chemical data show distinct evidence of dredging impacts adjacent to and within the northwestern portion of the TCRA Site, including:

- The presence of scalloped shorelines (dredge swing arcs) and steep underwater escarpments produced by dredging, and continual encroachment of dredging impacts from the north and west in 1966 towards the Impoundments through 2002.
- The undermining and loss of the berm and other materials in the northwestern and northeastern portion of the TCRA Site from 1997 through 2002.
- Discharge of sediments from the Big Star property from the sand separation and dewatering operations coincident with the dredging from 1997 through 2002, resulting in the deposition of contaminants in the alluvial deposits and north of the Big Star property.
- Evidence of the re-distribution of dioxins and furans in sediment and soil on and adjacent to the Big Star property – the highest concentrations of dioxins and furans observed in TCEQ and RI/FS data from outside the immediate vicinity of the TCRA Site – are associated with known discharge areas from sand separation and dewatering operations on the Big Star property that occurred during the dredging operations.

6 REFERENCES

- Anchor QEA and Integral Consulting, Inc., 2010. Remedial Investigation/Feasibility Study Work Plan San Jacinto River Waste Pits Superfund Site. Prepared for McGinnes Industrial Maintenance Corporation, International Paper Company, and U.S. Environmental Protection Agency, Region 6. Anchor QEA, Ocean Springs, MS and Integral Consulting, Inc., Seattle, WA.
- TCEQ and USEPA, 2006. Screening Site Assessment Report San Jacinto River Waste Pits, Channelview, Harris County, Texas. TXN000606611. Texas Commission on Environmental Quality and U.S. Environmental Protection Agency.

FIGURES

K:\Jobs\090557-San Jacinto\090557-01 - San Jacinto\09055701-RP-100.dwg Fig 1

Aug 26, 2011 1:48pm tgr/ea



Figure 1
TCRA Vicinity Map
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRW Superfund Site/MIMC and IPC

SimC243 SWWtts POCms project\West for Anchor 20110822\Fig 2 1966 Aerial Photo 03/25/2011 @ 9:40:56 AM

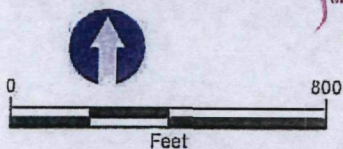
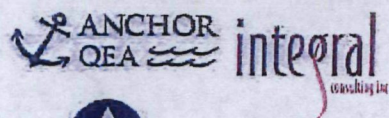


Figure 2
1966 Aerial Photo
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWSP Superfund/MIMC and IPC

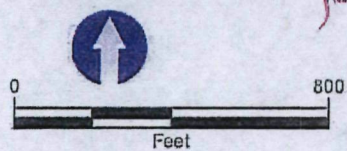
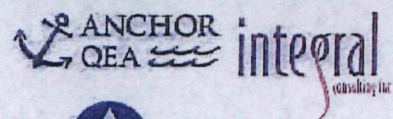
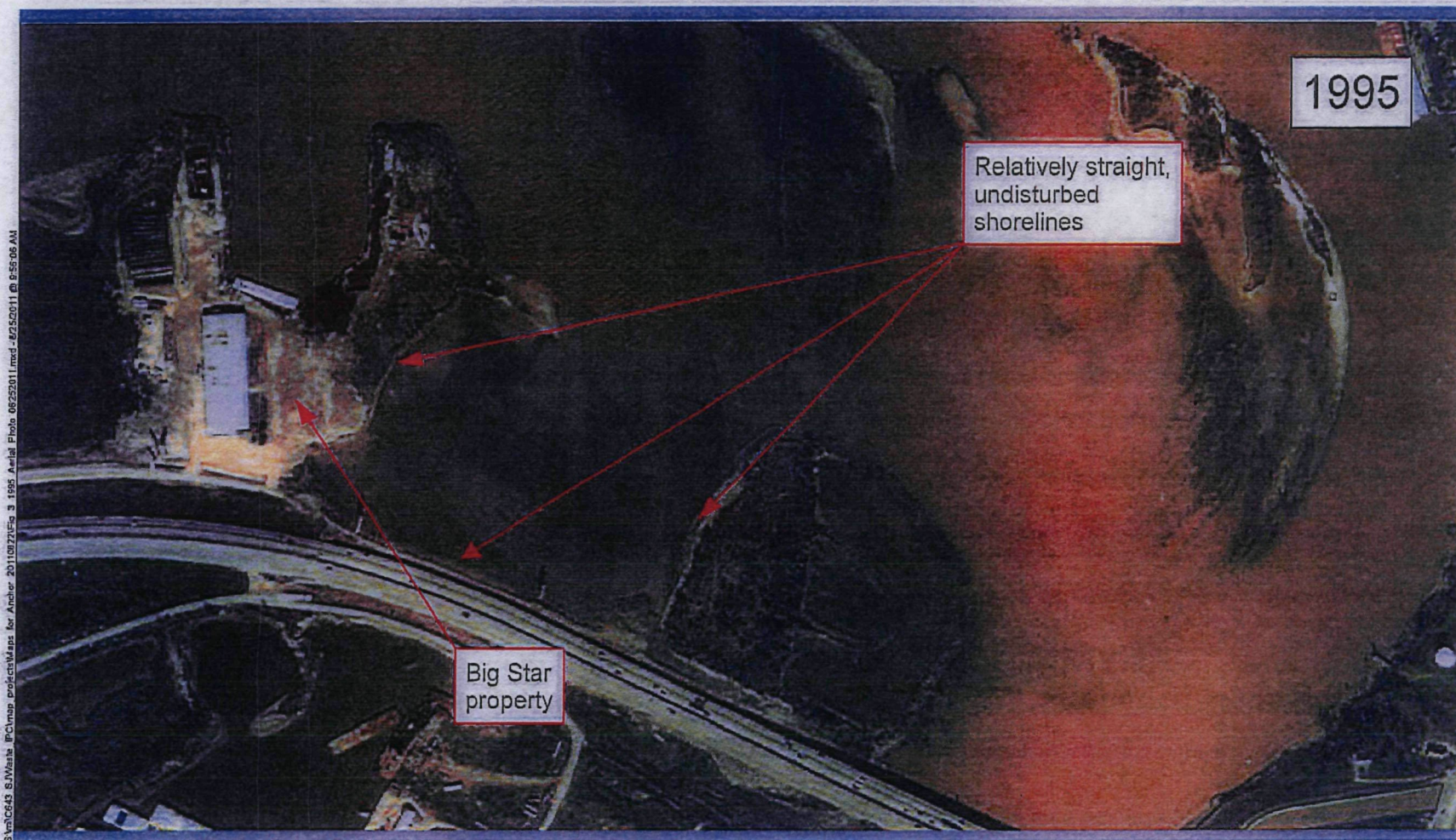


Figure 3
 1995 Aerial Photo
 Impact of Dredging on the San Jacinto Waste Pits TCRA Site
 SJRWP Superfund/MIMC and IPC

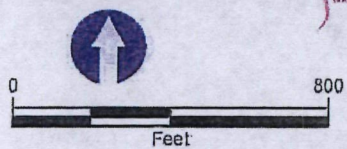
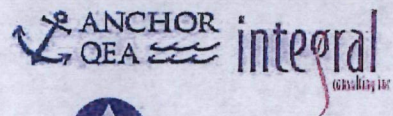
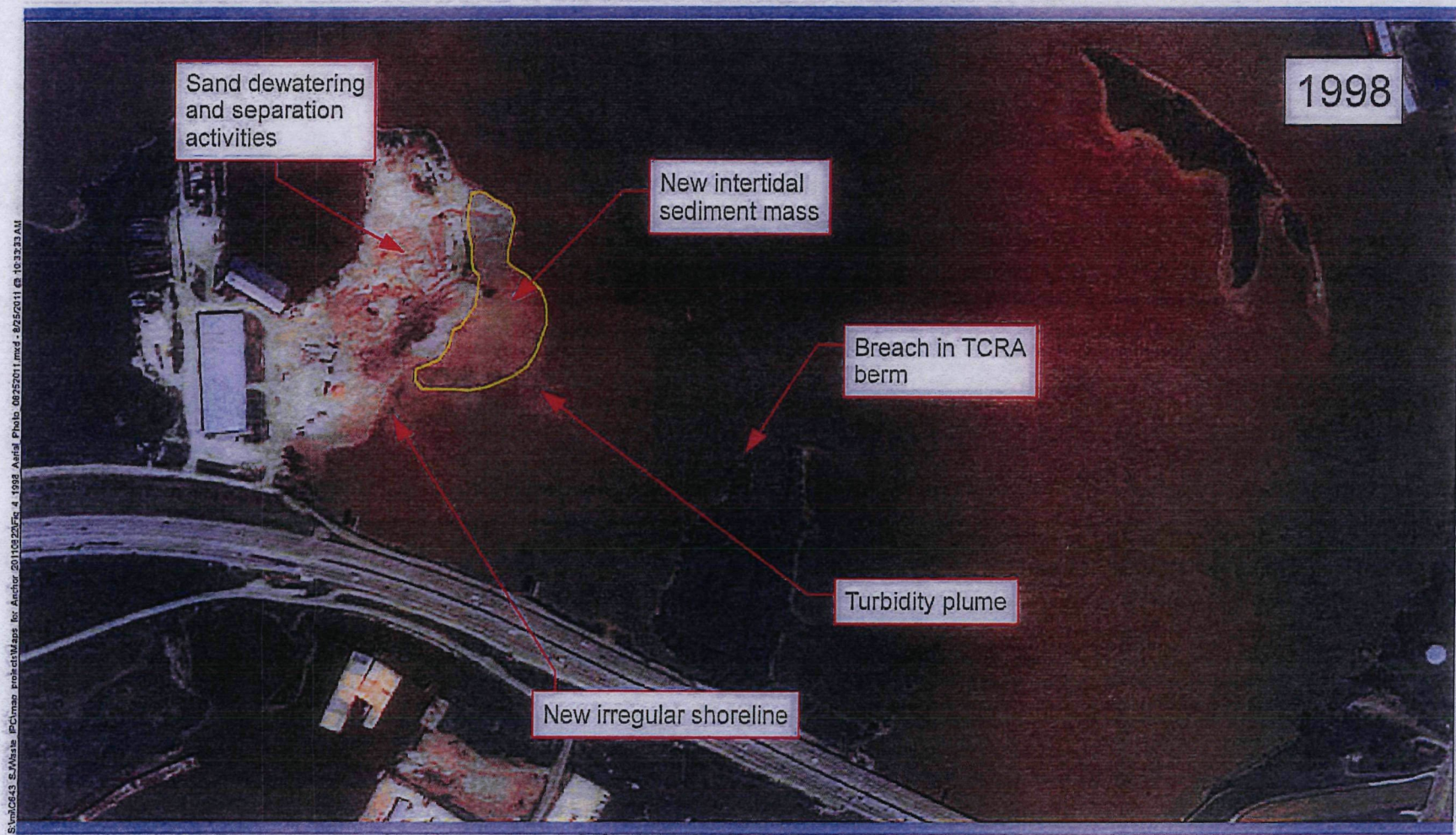


Figure 4
 1998 Aerial Photo
 Impact of Dredging on the San Jacinto Waste Pits TCRA Site
 SJRWP Superfund/MIMC and IPC

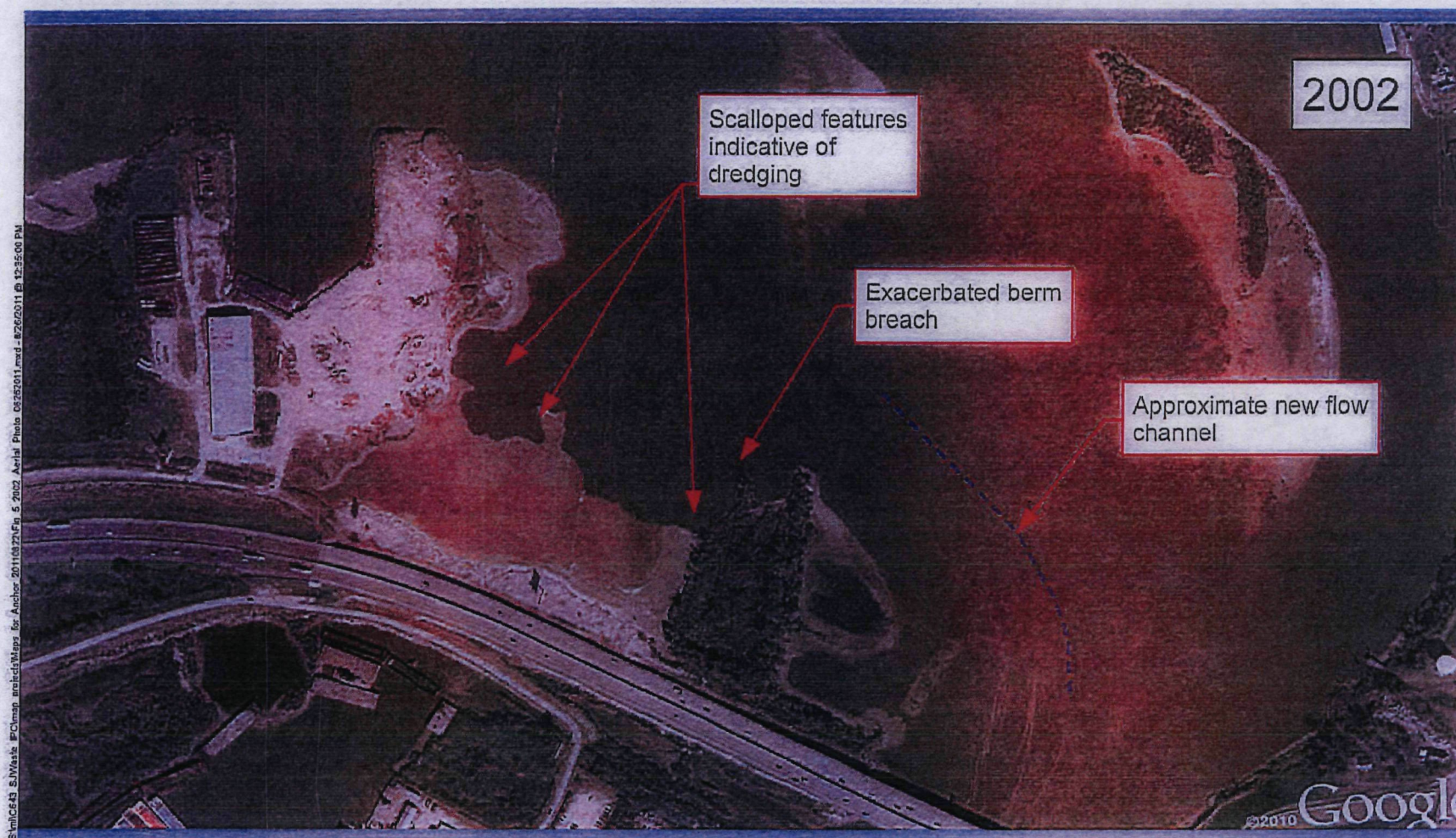


Figure 5
2002 Aerial Photo
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWSP Superfund/MIMC and IPC

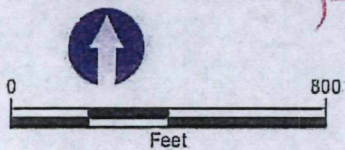
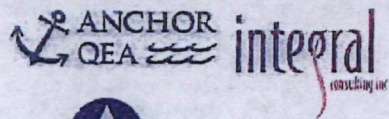
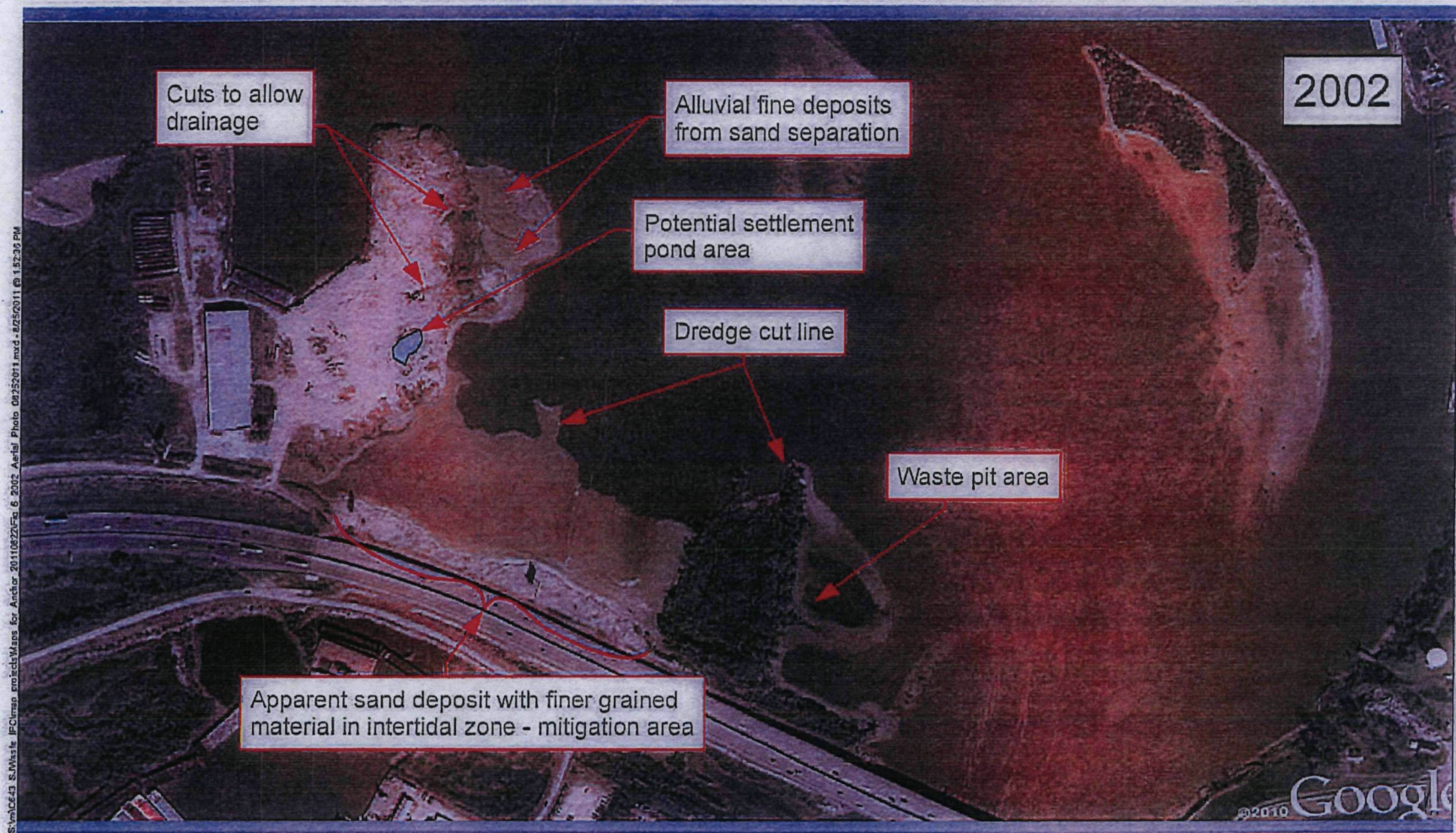


Figure 6
2002 Aerial Photo
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWP Superfund/MIMC and IPC

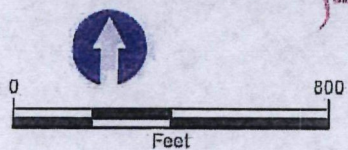
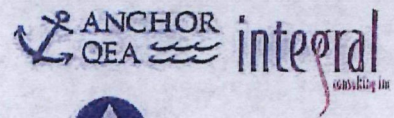
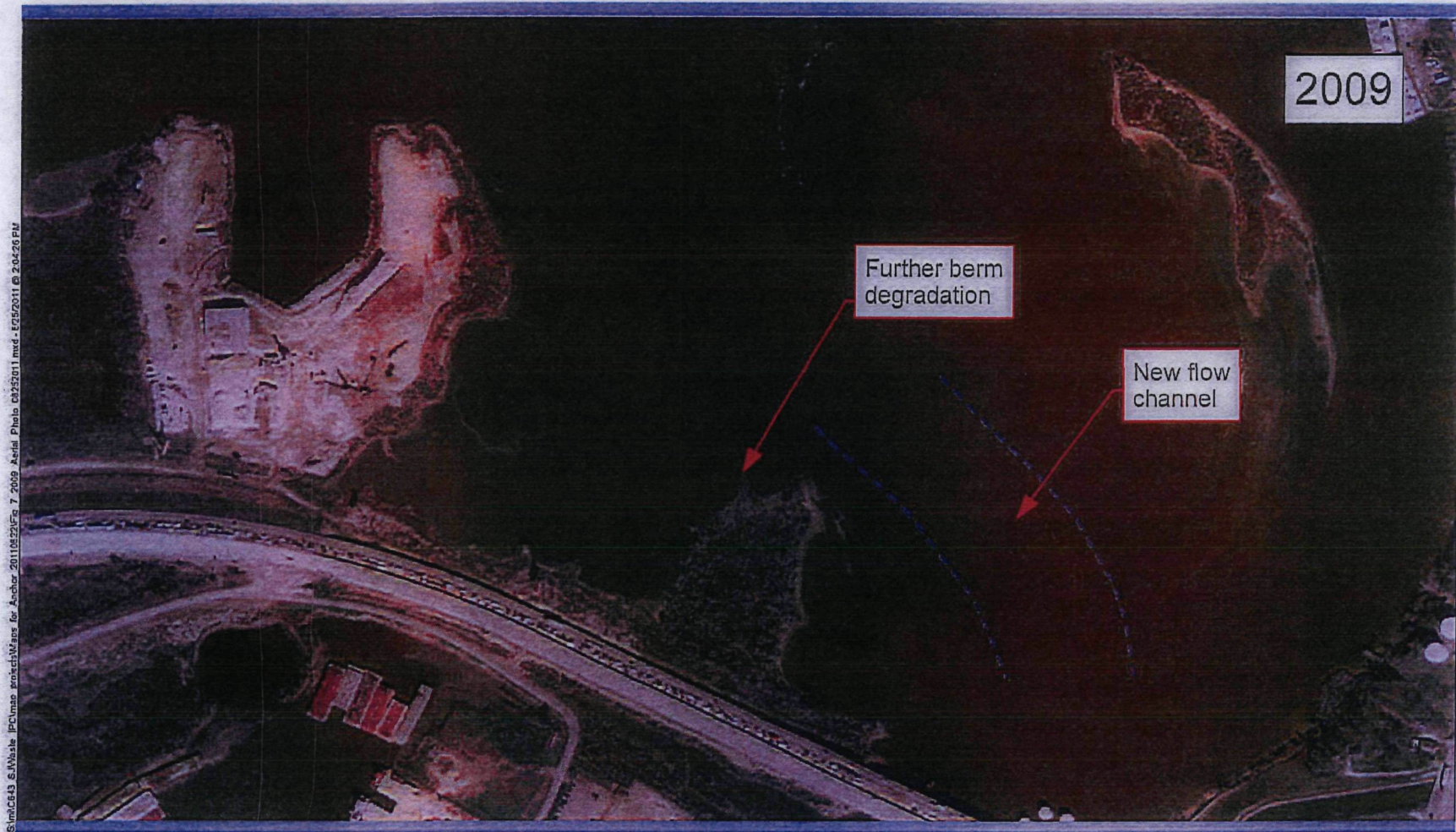
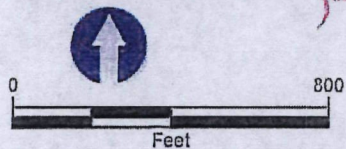
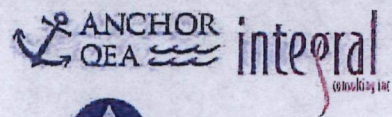
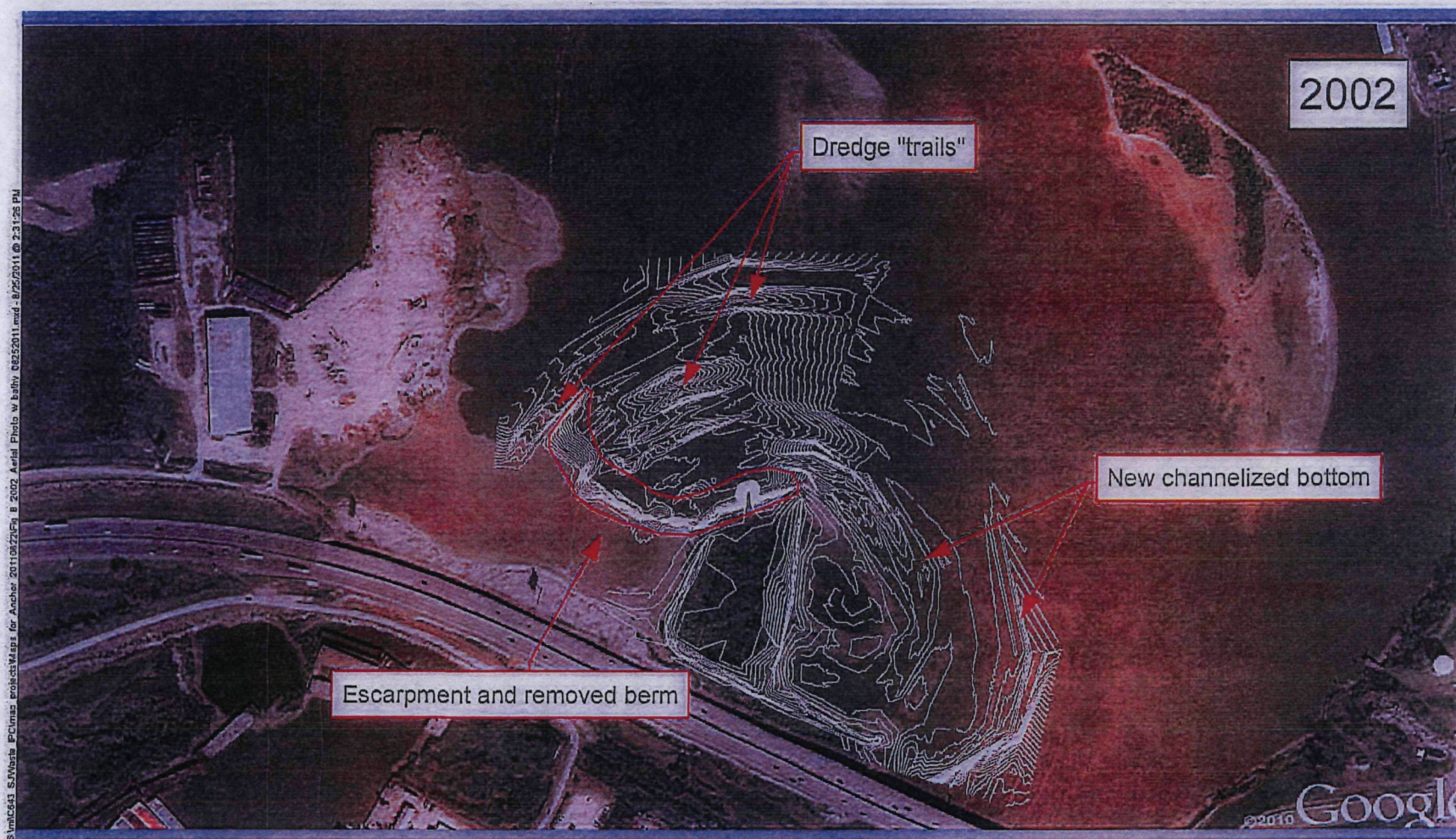
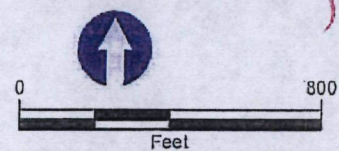
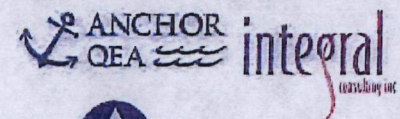


Figure 7
 2009 Aerial Photo
 Impact of Dredging on the San Jacinto Waste Pits TCRA Site
 SJRWP Superfund/MIMC and IPC



Bathymetry prepared from COE
Horizontal Datum: Texas South Central, NAD83, US Survey Feet
Vertical Datum: NAVD 88
Contour Interval: 1-foot

Figure 8
2002 Aerial Photo
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWP Superfund/MIMC and IPC



Bathymetry prepared from COE
Horizontal Datum: Texas South Central, NAD83, US Survey Feet
Vertical Datum: NAVD 88
Contour Interval: 1-foot

Figure 9
1966 & 2002 Aerial Photos
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWSP Superfund/MIMC and IPC

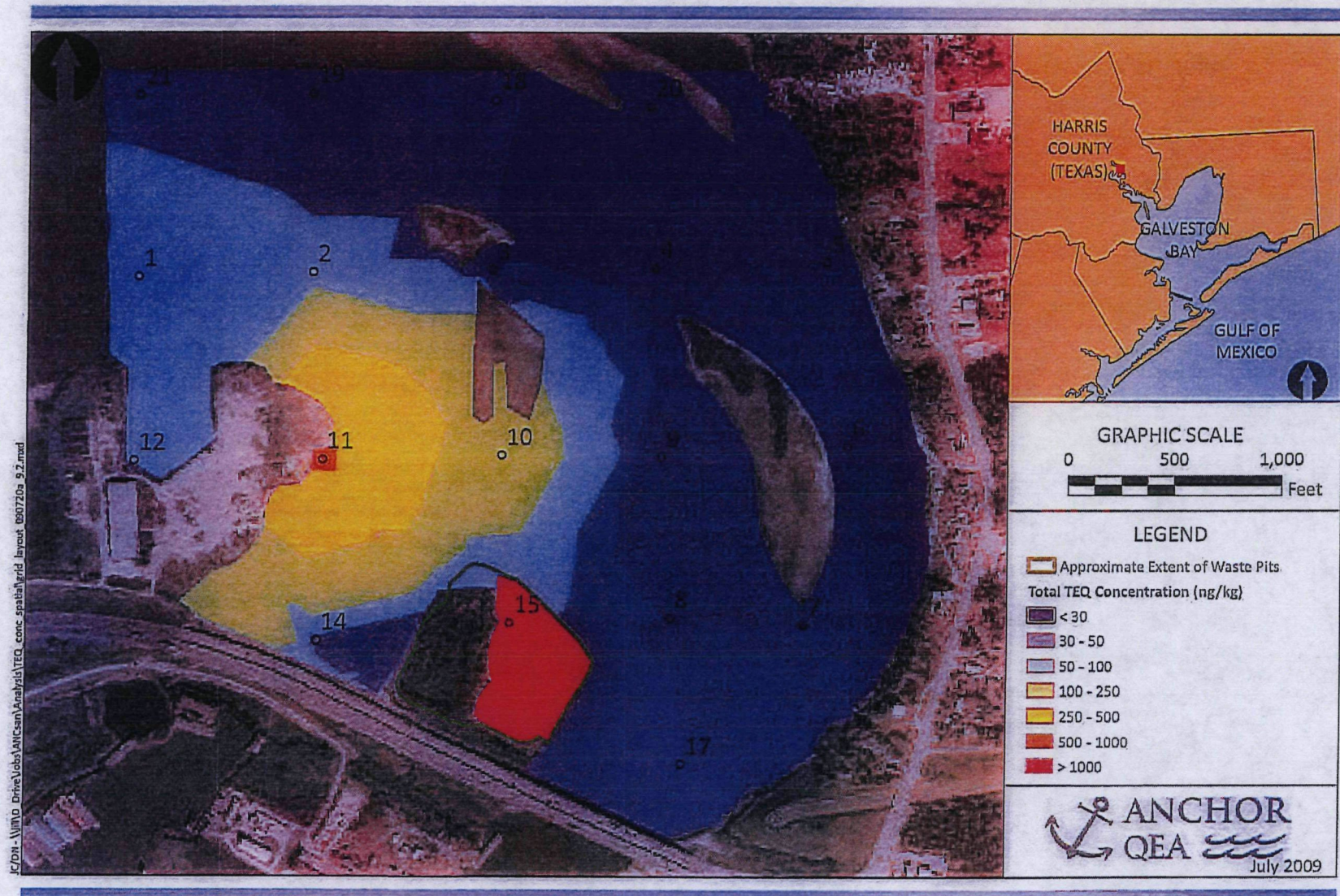
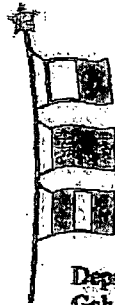


Figure 10
TEQ Concentrations in Surface Sediment Estimated via TIN Interpolation
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SJRWPF Superfund /MIMC and IPC

APPENDIX A

USACE DOCUMENTS

NOV 30 1998



HOUSTON INTERNATIONAL TERMINAL

November 20, 1998

18001 - 110
CHANNELVIEW TEXAS
REPLY TO
2918 GREEN LEE DRIVE
PEARLAND, TEXAS 77561
714-465-2464

251

Department of the Army
Galveston District
Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Attention: Mr. John Davidson

Re: Permit No. 19284(02)

Dear Sir:

This letter will confirm my past telephone conversations and your personal conversations with Mr. D. Moore of Mega Sand at Houston International Terminal. At this time we would like to reiterate our position which is as follows:

The original permit was issued after much discussion during conferences and meetings with Parker Brothers. As you know Parker merged to form Parker LaFarge which set back our operations by at least a year. Only one(1) barge load was removed by Parker LaFarge.

Parker LaFarge sold out and the new owners closed down the dredging operations and sold off all of their floating equipment.

All of this was done after a mitigation plan was submitted and approved. We were into 1996, and no further dredging was performed during this period.

In late 1997 we entered into a working contract with Mega Sand (Dan & Brenda Moore) who agreed to the mitigation plan. In September 1997 dredging recommenced and work on the mitigation plan started. Work progressed, but has been halted on several occasions by floods and bad weather. In the case of floods, the most recent being November 13, 14, and 15, 1998, the flood waters and currents have caused the removal of some of the material deposited in the mitigation sites.

We will keep Ms. L. Shead advised of the progress, in order that she may advise the Galveston Bay Foundation.

Office of Management

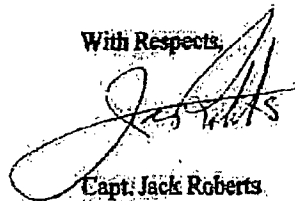
May 21, 1996

Page 2

We are writing at this time to assure the Corps and the Galveston Bay Foundation that our plans have not changed, and if weather permits will continue on course.

Thanking you for your continuing cooperation, we remain,

With Respects,



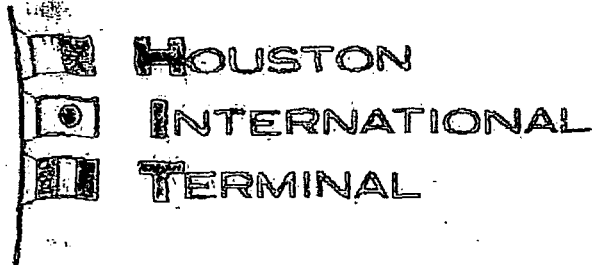
Capt. Jack Roberts

cc: Mega Sand

Encl. Letter dated 7-30-96

To U.S. Corps / John Moran

JAN 25 2000



18001 - 1-10
CHANNELVIEW, TEXAS
REPLY TO:
2910 GREEN ICE DRIVE
PEARLAND, TEXAS 77581
832 / 465-2454

7281

January 24, 2000

United States Corps of Engineers
Galveston, Texas

Attention: Mr. Bruce H. Bennett

VIA Fax 409/766-3931

Re: Permit #19284(2)

Dear Bruce,

It has been a long time since I have been in contact with you or the Corps and after talking to Ms. Tirpak today was pleased to hear that you are well. I have partially retired and as a result may have slipped my anchor concerning the above referenced permit.

Situation:

We received a permit in 1996 to dredge our property, construct a fish nursery with Galveston Bay Foundation and submitted a mitigation plan which was approved.

No work was performed in 1996 and it was late 1997 before operation commenced. Site was inspected by you, Mr. John Davidson and we were contacted by him and the entire operation laid out (See letter dated November 20, 1998, attached).

At this time we respectfully request that this permit be renewed, extended or whatever is required to allow Mega Sand to continue their operation.

UR Corps of Engineers

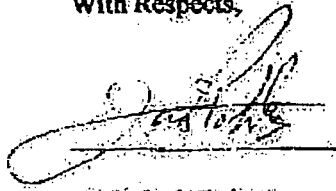
Page - 2 -

I was under the impression that permits for this type of operation was for five (5) years, but I understand ignorance is not an excuse. However the operation did not start until 9/97 and we suffered delays in 1998.

Upon receipt of this fax and after your review of our problems will you please contact me at 281/485-2464 or fax 281/485-0538.

Thanking you in advance for yours and the Corps usual prompt attention to this matter, remain,

With Respects,



Capt. Jack Roberts

JR:hr

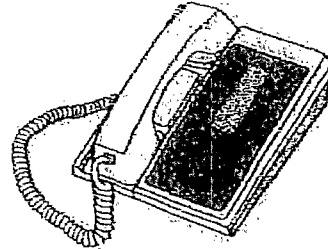
Attachments

CONVERSATION RECORD

DATE: 7 January 02

SUBJECT: Permit Application No. 19284(03)

CONTACT: Jack Roberts



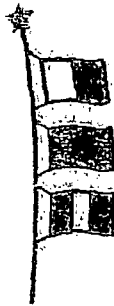
NOTE: Called Mr. Roberts to inform him that I am now the Project Manager for the subject permit application. The previous Project Manager was Kerry Stanley.

I asked Mr. Roberts if the applicant, Houston International Terminal, has reviewed the revised mitigation plan (a more detailed plan) submitted to them by Kerry on 2 August 01. He said that the applicant reviewed the revised plan and is agreeable to it. However, the contracted dredge company has quit, and the applicant cannot advertise for a new dredging company until the subject extension of time is permitted by the Corps.

Mr. Roberts also informed me that they have not heard anything from the Galveston Bay Foundation (GBF) regarding the revised mitigation. The GBF will be assisting in creating the mitigation area. I told Mr. Roberts that I would contact Ms. Shead of the GBF and see if they agree with the revised mitigation plan.

Tracy C. Orr

Tracy C. Orr
Project Manager, North
Evaluation Unit



**HOUSTON
INTERNATIONAL
TERMINAL**

MAR 12 2002

18001 — 1-10
CHANNELVIEW, TEXAS
REPLY TO:
2910 GREEN TEE DRIVE
PEARLAND, TEXAS 77581
713 / 495-2484

March 11, 2002

Department of the Army
Galveston District Corps of Engineers
P. O. Box 1229
Galveston, Texas 77553-1229

Attention: Mr. Tracy C. Orr
Project Manager
Evaluation Section

Re: Permit 19284 (03)

Dear Sir:

We are in receipt of your letter of March 4, 2002 concerning the above referenced subject and after reviewing our files would like to advise as follows:

Upon receipt of your letter on March 8, 2002 we called Ms. Linda Shead in order to fill her in on this operation. She advised the writer that she was leaving the G.B.F. but would leave her replacement with all details.

In order to bring the file up to date we would like to advise your office of the past and future performance intended by H.I.T.

We have for the past year or more commenced mitigation Phase I and we are over 75% complete. Finger piers of dirt (clean) (Exhibit "A" attached) are in place and grass planted is growing above expectations. There is dirt in place that will complete this phase. Cost of this operation exceeds \$ 10,000.00 and we feel that this is in line with the estimated removal of sand that everybody agreed upon at the beginning of dredging.

Department of the Army
Galveston District Corps of Engineers
Mr. Tracy C. Orr
March 11, 2002
Page - 2 -

At this time we respectfully request that another meeting be held (H.I.T. representative, new G.B.F. representative, yourself or your representative) in order to move on with this project and to clarify paragraph #3 in your recent letter.

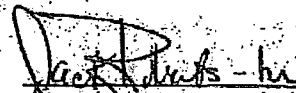
As you are aware the dredging company has pulled off the site and we are seeking another contractor. We can not contract for a royalty company without a permit and without a contractor we do not need to assist G.B.F. with mitigation and further extension of the Nursery which we previously agreed to donate.

In closing let us state that it is our intention, as always, to cooperate and comply with all parties requirements and feel that an immediate inspection, as aforementioned, would clear the air on this matter.

Upon receipt of this letter and after your review we would appreciate a telephone conference (281/485-2464 - Fax 281/485-0538)

Thanking you in advance for your prompt attention to this matter, remain,

Sincerely,



Capt. Jack Roberts

JR:hr

cc: G.B.F.

GALVESTON
BAY
FOUNDATION

JUL 25 2002

July 23, 2002

Tracy C. Orr
Project Manager
North Evaluation Unit
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, TX 77553-1229

RE: Permit Application No. 19284 (03)

Dear Mr. Orr:

Please find enclosed our comments concerning the progress of Phase I, II, and III of the proposed nine acre mitigation plan being constructed by the applicant Houston International Terminal (HIT) as previously permitted under permit # 19284(03).

On Thursday, June 20, 2002 two Galveston Bay Foundation (GBF) representatives met with Captain Jack Roberts of HIT along the south bank of the San Jacinto River, just north of the Interstate Highway 10 Bridge, in Channelview, Harris County, Texas, to observe the current state of the mitigation site. It appears that a measurable amount of fill material has been placed into the southern sections of all three mitigation phases at an even elevation. While no official measurements were taken, we estimate that approximately 1,000 linear feet of shoreline, 70-85 feet in width, have been filled-in and built up to an unknown depth (see enclosed before and after photographs). There were no tidal channels or planted vegetation present.

In addition, Captain Roberts shared with us some obstacles that he has encountered while attempting to complete the first phase of the mitigation project. They are as follows:

1. While the intention was to complete the mitigation project in phases corresponding to the amount of dredging accomplished, in actuality a contractor unknowingly placed the fill material into all three phases of the mitigation project simultaneously. As a result, the completion of the phase I mitigation is forthcoming, and HIT will attempt to complete it using dredge material that would be obtained upon receiving an extension of time to complete the work which was previously permitted.
2. As of yet, the elevation required to successfully support the growth of *Spartina*

JUL 26 2002

alterniflora in the phase I mitigation site has not been obtained. The current level of the fill material is too high. HIT had hopes of thinly spreading the material out by pushing it water-ward with a tractor after having deposited it along the coastline, but their equipment has been stuck in the mud several times attempting to do this. HIT now feels that it will be necessary to use a barge to complete the phase I mitigation.

The Galveston Bay Foundation has the following concerns and recommendations regarding the current state of the Phase I mitigation site:

1. The Galveston Bay Foundation is concerned that the requirements stipulated in permit #19284(03) have not been followed. Additionally, when GBF agreed to assist with the proposed mitigation we accepted significant responsibility in the successful development, implementation, and completion of this project, yet we were not consulted concerning its implementation:
 - a. Despite a requirement in the permit there are no brush fences in place on the unprotected side of the mitigation site to encourage the settlement of discharged material at the site. In addition, a discharge pipe was not used to control the deposition of the material. As a result the Foundation believes that the fill material may have been inappropriately placed. After reviewing the before and after pictures of this site, it appears that the fill material may have been placed in an area that was already at an appropriate elevation to grow *Spartina alterniflora*. We believe that a better use of the material would have come from placing the material off of the shoreline using a discharge pipe.
 - b. We are also concerned that all of the fill material was not used for the completion of the phase I mitigation site. We feel that it would be appropriate at this time to move the fill material in Phase II and III to Phase I so that it could be completed.
2. Additionally the Foundation is concerned that in a letter dated April 1, 1996, to the U.S. Army Corps of Engineers Ms. Shead, then the director of the Galveston Bay Foundation, stated,

I am writing to confirm the GBF role in the wetlands mitigation project for permit application 19284 (02) submitted by Houston International Terminal. GBF has agreed to participate in the project provided a conservation easement for the property is granted as well as funding for the nursery creation work. Such an agreement is pending.

Currently, for reasons unknown, we are not aware that any such agreement/contract between GBF and HIT exists. We recommend that a formal conservation easement be signed and that funds for future plantings be agreed upon including appropriate allocations for replanting the site, if that should ever become necessary.

Mr. Cox
7/24/02
Page 3

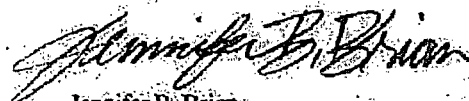
JUL 26 2002

3. As previously recommended by NMFS we also recommend that a more detailed mitigation plan be created with a feasible associated timeline for the completion of work. Detailed descriptions of the mitigation construction, reconstruction, and filling techniques should be included as part of the permit conditions as well as detailed drawings of the proposed mitigation area that depict existing elevations, and contours, target wetland planting area elevations, and the mean low and mean high water levels. All project plans need to be thoroughly discussed with all appropriate parties including the applicant, the U.S. Army Corps of Engineers, NMFS, other state and Federal resource agencies, GBF, and any other contractors that may be working on the project.

4. Finally, GBF is concerned that the dredged material currently being used as fill may not be of an appropriate substrate for marsh restoration. The material appears to be rather coarse and contain some component of gravel/rock. A GEO TECH survey may need to be completed at the site to determine the appropriateness of the material for use in marsh restoration. We request that an extension of the project be granted only after it is determined that the material is appropriate. Additionally, we request that the project be terminated if it is ever found to no longer be economically viable or able to produce material suitable for wetland fill.

In the event that the Corps would grant an extension of time to complete this project we recommend that all of the above concerns be addressed.

Sincerely,



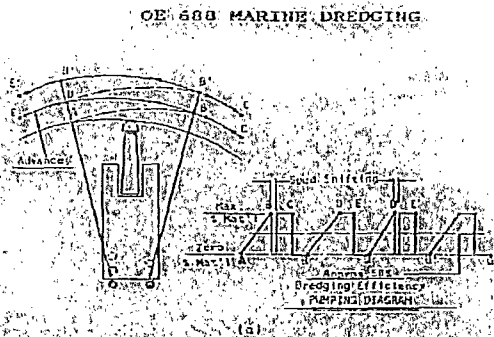
Jennifer B. Brian
Conservation Coordinator

enclosures

APPENDIX B

TYPICAL SAND DREDGING OPERATIONS

Typical sand dredging operations would be performed by a barge mounted pump (dredge) that uses two spuds (legs that reach the bottom) and swing anchors to advance or walk in the dredge cut. Using one spud as a digging spud and the second as a "walking" spud, the dredge can move forward by pulling the bow of the dredge to the side, dropping the walking spud and then reversing the swing, as shown in the figure below from Turner 1984 (Thomas M. Turner, *Fundamentals of Hydraulic Dredging*, 1984).



Dredge animations and video clips can be viewed on the Ellicott and USACE web sites at the following links:

<http://www.dredge.com/dredge-videos-animations.html>

<http://el.erdc.usace.army.mil/dots/doer/tools.html>

In a sand mining operation, a hydraulic (pump) cutterhead dredge is used to excavate and transport the material via a water slurry to a processing facility. The dredge cutterhead shears the material so that the hydraulic pump can mix the sediments with water and transport the slurry in a pipeline. At the processing facility, the sand and water mixture is dispersed in a pond to cause the sediments to fall out of suspension. A typical separating plant can be as simple as a diked area that will slow the transported slurry to allow the sediment to deposit while decanting the water and very fine materials, leaving the sand/aggregate as a product to be sold for concrete, mortar, plaster, and other building projects. The larger particles, due to their density settle first, followed by sequentially finer

particles as the distance from the discharge increases and the slurry velocity decreases. The effluents can contain the very fine clay and silt particles as they are discharged from the separating area through a weir or other structure that is used to control the effluent velocity. The figure below comes from the USACE design manual EM 1110-2-5027 and shows the basic functions of the confined placement area. If the separating area is too small, and the slurry velocities do not decrease sufficiently, the smaller particles will exit the site through the weir.

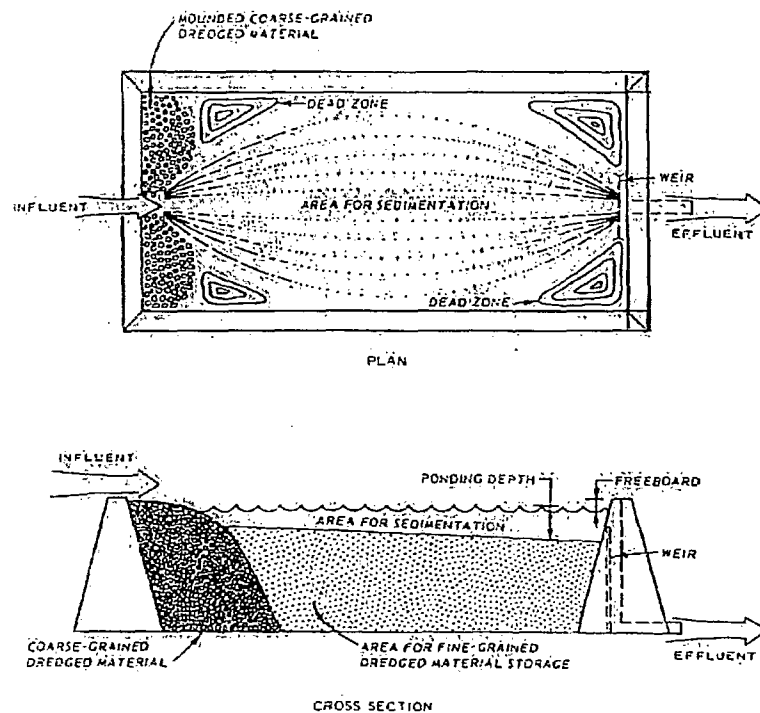


Figure 1-1. Conceptual diagram of a dredged material containment area

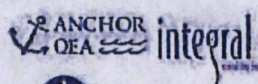
Extracted from EM 1110-2-5027 Engineering and Design of Confined Disposal of Dredged Material September 1987.

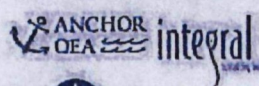
APPENDIX C

FIGURES FROM DRAFT PSCR



Figure 6-11
Impact of Dredging on the San Jacinto Waste Pits TCRA Site
SIRWP Superfund/MIMC and IPC





USEPA's Preliminary Site Perimeter

Notes:
 TEQ_{dw} = toxicity equivalent for dioxin and furan
 using monochlorinated PCBs from van den Berg, et al. (2000) (non detect = 1/2 detection limit)
 J = Estimated. One or more congeners used to calculate the TEQ_{dw} was not detected

Figure 6-12
 TEQ_{dw} Concentrations (ng/kg dw)
 in Surface Sediment
 Impact of Dredging on the San Jacinto Waste Pits TCRA Site
 SJRWP Superfund/MIMC and IPC

EXHIBIT B-1

EXHIBIT B-1

DEPARTMENT OF THE ARMY PERMIT

Permittee Houston International Terminal

Permit No. 19284

Issuing Office Galveston District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To dredge sand for commercial sale and to provide a barge berthing area, and to create a fenced smooth cordgrass marsh area for mitigation; in accordance with the attached plans in six sheets, sheet one of which is entitled "HOUSTON INTERNATIONAL TERMINALS."

Project Location: San Jacinto River, along the south bank, north of the Interstate 10 bridge in Channelview, Harris County, Texas.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 1995. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or arch. logical remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).

☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

a. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

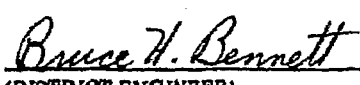
Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(PERMITTEE)

HOUSTON INTERNATIONAL TERMINAL

11 May 1992
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT ENGINEER)

BRUCE H. BENNETT, Acting Chief,
North Evaluation Section
FOR COLONEL BRINK P. MILLER

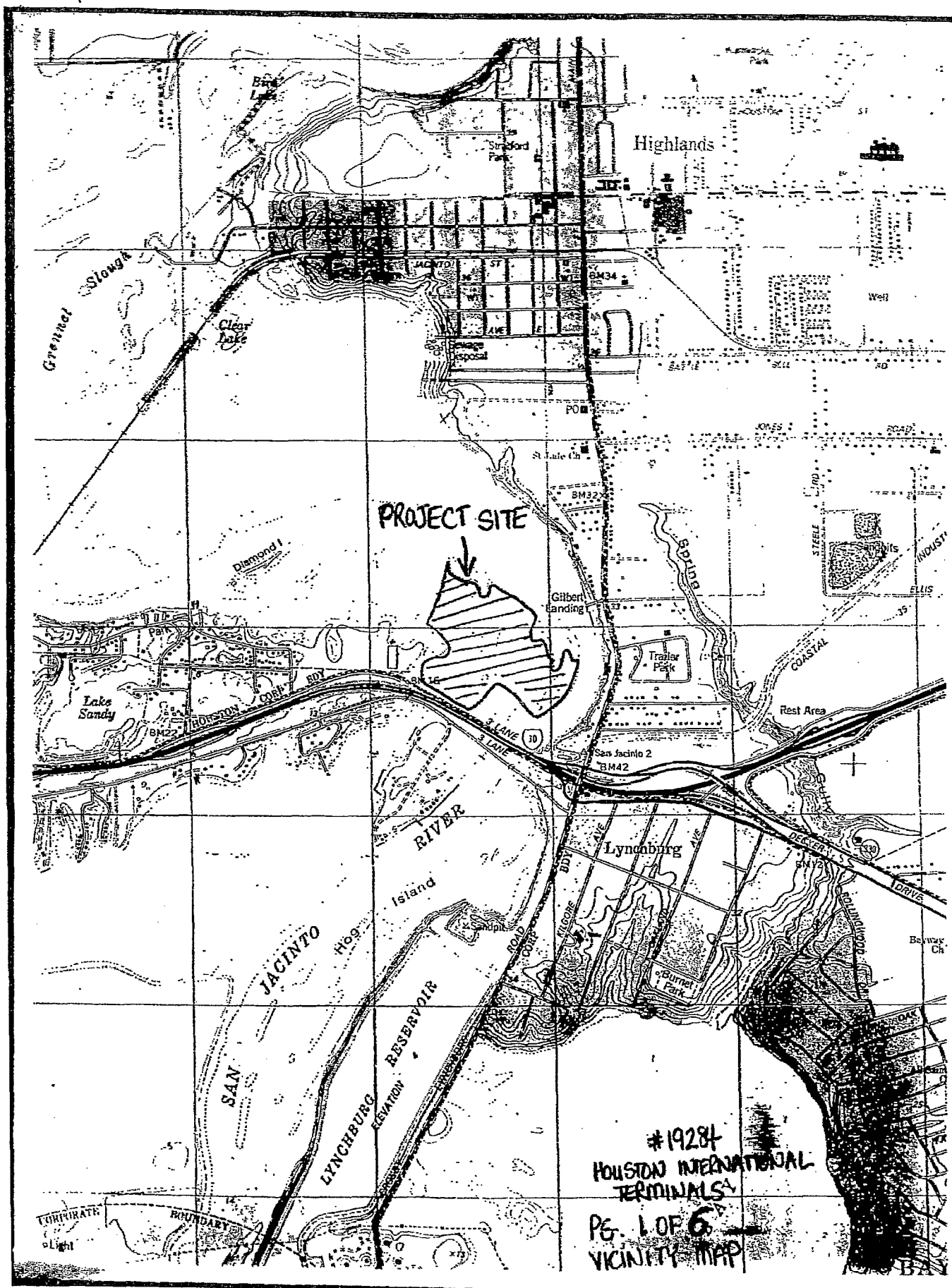
11 MAY 1992

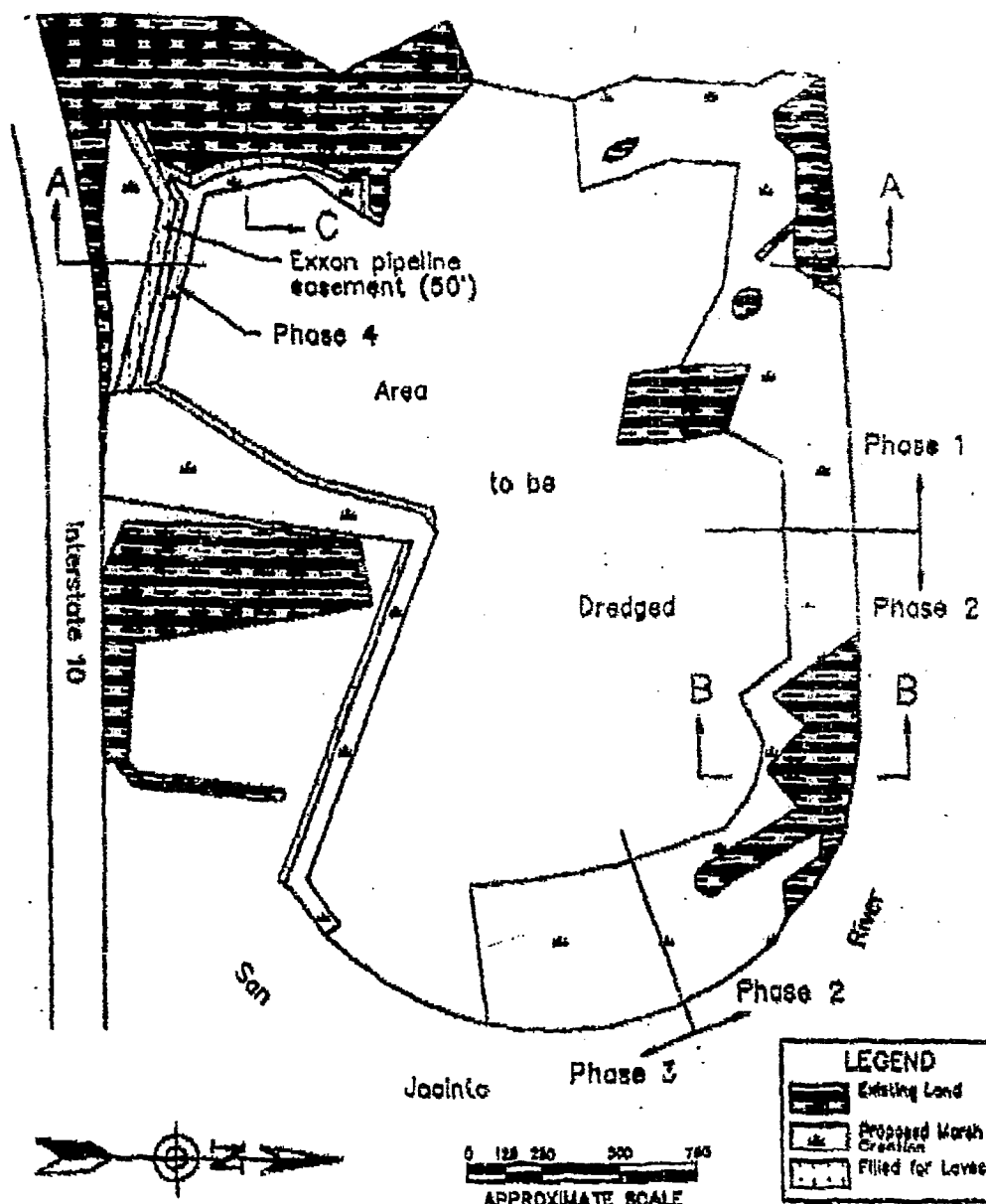
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

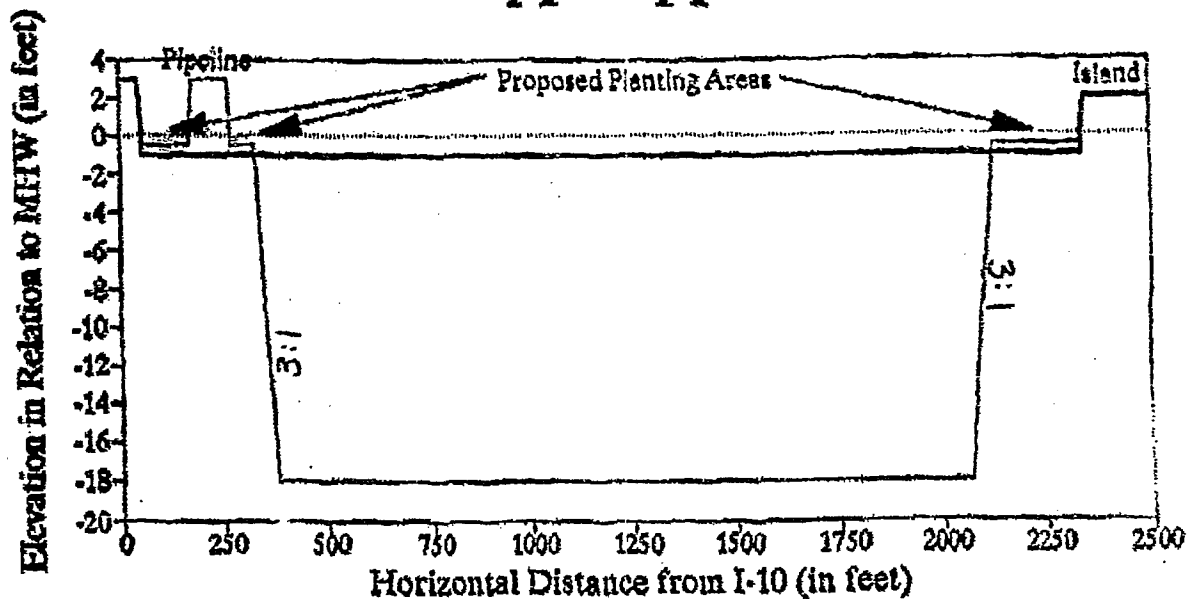
(DATE)





- NOTES:
- ① ALL SLOPES AROUND PERIMETER OF DREDGING Plan view of proposed mitigation WILL BE 3:1
 - ② ALL PLANTED AREAS WILL BE PROTECTED BY "CAGING" OR FENCING.

Cross Section of Dredged Area A --- A



SLOPES = 3:1

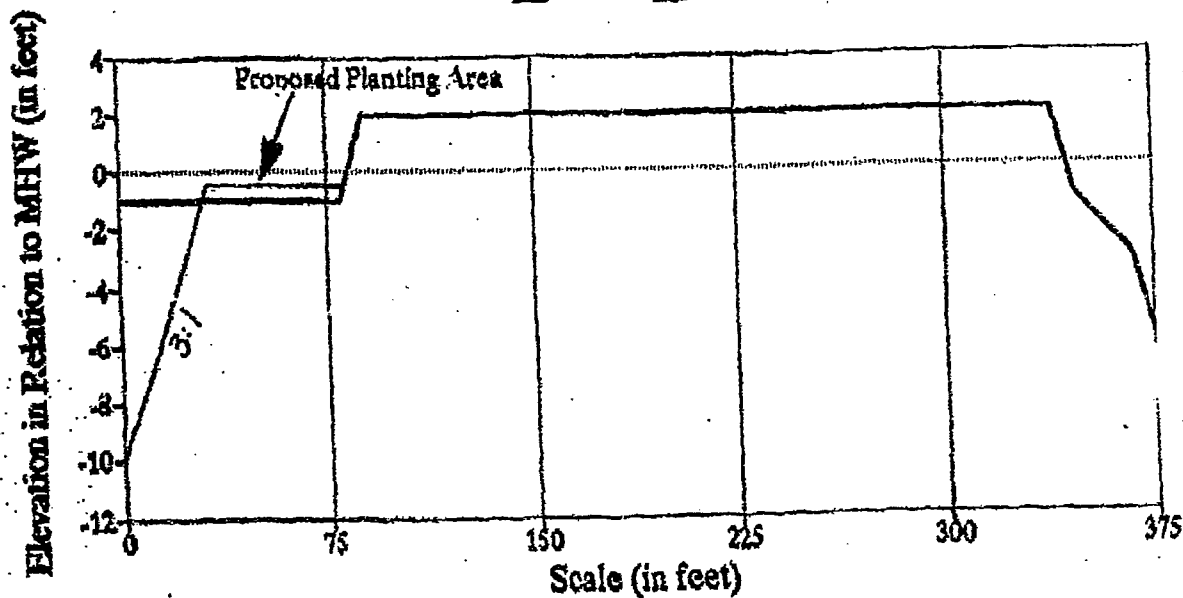
— Proposed Contour — Existing Contour

Cross-section A --- A of proposed mitigation

#19284
HOUSTON INTERNATIONAL
TERMINALS

PG. 3 OF 5

Cross Section of Planting Area B --- B



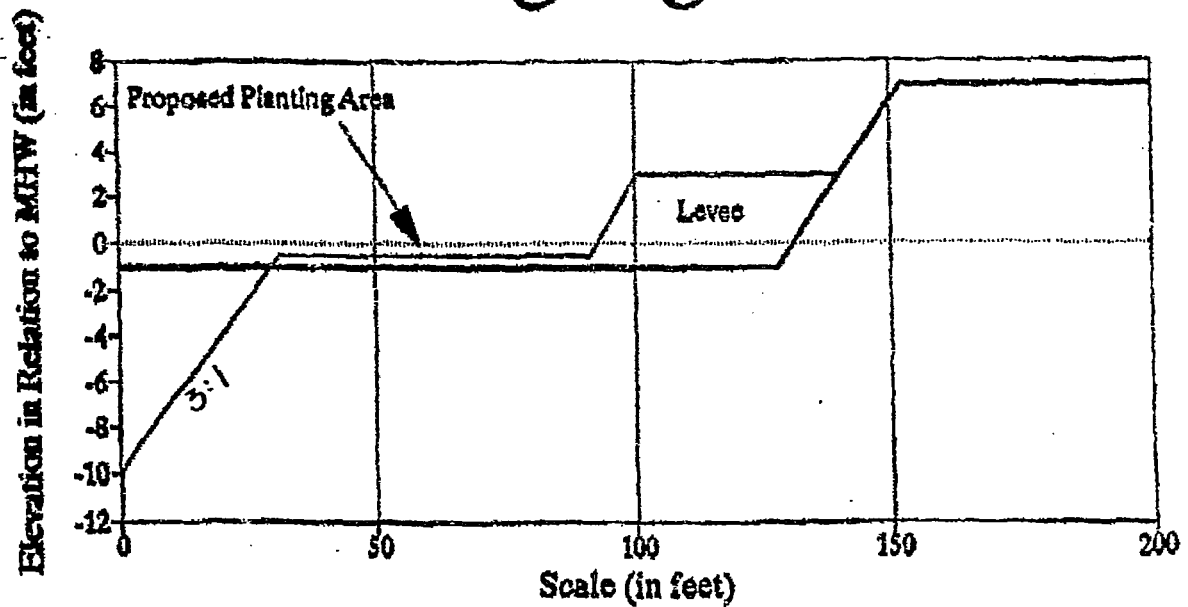
SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross-section B --- B of proposed mitigation

#19284
HOUSTON INTERNATIONAL
TERMINALS
PG. 4 OF 6

Cross Section of Planting Area C --- C



SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross-section C --- C of proposed mitigation

#19284
HOUSTON INTERNATIONAL
TERMINALS
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* JANE BOSLOTT MAR 12 1992

**Addendum to Conceptual Mitigation Plan Prepared for
Houston International Terminal**

In the course of the permit evaluation, several parties — such as the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Galveston Bay Foundation — expressed concerns about the proposed mitigation. In order to address these concerns, Houston International Terminal (the Applicant) proposes to plant the areas of suitable elevation referenced in the mitigation plan (approximately 15.2 acres) with Smooth Cordgrass, *Spartina alterniflora*.

The planting will be performed in four phases (Figure 3) as the dredging progresses. The first phase would consist of planting approximately 4.3 acres, and would begin between March 15 and May 31 of the first year following initiation of dredging operations. The remaining three phases (5.1 acres, 3.2 acres, and 2.6 acres, respectively) would occur over the 7 to 10 year life of the project. Since the commercial demand for sand will dictate the rate at which dredging occurs, a definite timetable cannot be guaranteed for phases 2, 3, and 4, although the March 15 to May 31 window will be adhered to whenever planting occurs.

Per the U.S. Fish and Wildlife Service's June 11, 1991, and the National Marine Fisheries Service's June 18, 1991, comment letters, the Smooth Cordgrass will be planted on three-foot centers. The areas to be planted will be leveled at -0.5 feet MHW. Each planting unit will consist of a single plug containing one to four stems.

To avoid damage to the marsh where the transplants will be acquired, no more than one six-inch plug of source material per one square yard will be obtained. In addition, the Applicant will, to the greatest extent practicable, access the source material in the borrow marsh in a manner that does not destroy or lower the ground elevation of the marsh. Although the Applicant would be willing to replant any areas with less than 70 percent survival through normal mortality after a one year period, this would not include mortality as a result of oil or chemical spills, boat traffic, hurricanes, or similar events beyond the Applicant's control.

In addition, the proposed mitigation will be dependent upon whether or not there is sufficient sand to be commercially feasible. In this regard, once the permit is issued, a minimal pilot dredging operation will be conducted in order to make this determination. If it is determined that there is insufficient sand to proceed, no additional dredging will occur and the Applicant will not be bound to initiate or complete the mitigation.

According to the Galveston Bay Foundation's March 1, 1991, comment letter, they plan to continue cordgrass planting in the project area for at least four more years. The Applicant will be willing to cooperate with the Foundation in this endeavor if the dredging project is feasible. Houston International Terminal believes the proposed mitigation will greatly improve the habitat diversity of the area, and is more than adequate compensation for the shallow water habitat that will be lost as a result of the proposed dredging activity.

PERMIT ACTION SHEET

FINAL DRAFT ASSES	PROPOSED OF FACT	FINAL ACTION CODE	APPL WITHDRAWN	APPL DENIED	APPL REFERRED
<u>1-1-1</u>	<u>05A4A2</u>	<u>I</u>	<u>1-1-1</u>	<u>1-1-1</u>	<u>1-1-1</u>
<small>146-20</small>	<small>146-20</small>	<small>146-20</small>	<small>146-20</small>	<small>146-20</small>	<small>146-20</small>

DRAFT PERMIT
FORWARDED
05A1A2
146-20

PERMIT ISSUED
05A1A2
146-20

PERMIT EXPIRATION
DATE
12/31/15
146-20

FINAL ACTION CODES

I-ISSUED
D-DENIED
W-WITHDRAWN

REMARKS

RECEIVED
APR 02 2009
LEGAL DEPARTMENT
WASTE MANAGEMENT

EVALUATION OF SECTION 404(b)(1) GUIDELINES - SHORT FORM

APPLICANT: Houston International
Terminal

APPLICATION NUMBER: 19284

1. Review of Compliance (230.10(a)-(d)). A review of the permit application indicates that:

- a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative);
- b. The activity does not appear to:
- 1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA;
 - 2) Jeopardize the existence of Federally listed endangered or threatened species or their habitat; and
 - 3) Violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);
- c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see values, section 2);
- d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5).

YES X NO*

YES X NO*

YES X NO*

YES X NO*

2. Technical Evaluation Factors (Subparts C-F) (Where a significant category is checked, add explanation below.)

	N/A	NOT SIGNIFICANT	SIGNIFICANT*
a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)			
1) Substrate impacts	_____	<u>X</u>	_____
2) Suspended particulates/turbidity impacts	_____	<u>X</u>	_____
3) Water column impacts	_____	<u>X</u>	_____
4) Alteration of current patterns and water circulation	_____	<u>X</u>	_____
5) Alteration of normal water fluctuations/hydroperiod	_____	<u>X</u>	_____
6) Alteration of salinity gradients	_____	<u>X</u>	_____
b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)			
1) Effect on threatened/endangered species and their habitat	<u>X</u>	_____	_____
2) Effect on the aquatic food web	_____	<u>X</u>	_____
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)	_____	<u>X</u>	_____
c. Special Aquatic Sites (Subpart E)			
1) Sanctuaries and refuges	<u>X</u>	_____	_____
2) Wetlands	_____	<u>X</u>	_____
3) Mud flats	<u>X</u>	_____	_____
4) Vegetated shallows	<u>X</u>	_____	_____
5) Coral reefs	<u>X</u>	_____	_____
6) Riffle and pool complexes	<u>X</u>	_____	_____
d. Human Use Characteristics (Subpart F)			
1) Effects on municipal and private water supplies	_____	<u>X</u>	_____
2) Recreational and Commercial fisheries impacts	_____	<u>X</u>	_____
3) Effects on water-related recreation	_____	<u>X</u>	_____
4) Aesthetic impacts	_____	<u>X</u>	_____
5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	<u>X</u>	_____	_____

3. Evaluation of Dredged or Fill Material (Subpart G)**

- a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.)

- | | |
|--|---------------|
| 1) Physical characteristics | <u> X </u> |
| 2) Hydrography in relation to known or anticipated sources of contaminants | <u> X </u> |
| 3) Results from previous testing of the material or similar material in the vicinity of the project | <u> X </u> |
| 4) Known, significant sources of persistent pesticides from land runoff or percolation | <u> </u> |
| 5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances | <u> </u> |
| 6) Other public records of significant introduction of contaminants from industries, municipalities or other sources | <u> </u> |
| 7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities | <u> </u> |
| 8) Other sources (specify) | <u> </u> |

List appropriate references.

The Texas Water Commission certified the project on 6 November 1991.

- b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites and not likely to degrade the disposal sites, or the material meets the testing exclusion criteria.

YES X NO

4. Disposal Site Delineation (230.11(f))

- a. The following factors, as appropriate, have been considered in evaluating the disposal site:

1) Depth of water at disposal site	<u>X</u>
2) Current velocity, direction, and variability at disposal site	<u>X</u>
3) Degree of turbulence	<u> </u>
4) Water column stratification	<u> </u>
5) Discharge vessel speed and direction	<u>X</u>
6) Rate of discharge	<u>X</u>
7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)	<u>X</u>
8) Number of discharges per unit of time	<u>X</u>
9) Other factors affecting rates and patterns of mixing (specify)	<u> </u>

List appropriate references:

The overburden will be used to create 15.2 acres of mitigated wetlands in 4 phases of 4.3, 5.1, 3.2, and 2.6 acres, respectively, in proportion to 4 stages of dredging 2.6, 3.1, 1.9, and 1.6 acres (9.25 acres total).

The overburden material will be planted with smooth cordgrass on 3-foot centers of plugs comprised of 1-4 stems each. Fencing will be placed around these sites to prevent grazing by herbivorous fish.

The dredged sand material will be placed on barges to be sold commercially.

- b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES X NO

5. Actions to Minimize Adverse Effects (Subpart H)

All appropriate and practicable steps have been taken, through application of recommendations of 230.70-230.77 to ensure minimal adverse effects of the proposed discharge. List actions taken.

YES X NO

- a. Using appropriate equipment or machinery in activities related to the discharge of dredged or fill material.
- b. Employing appropriate machinery and methods of transport of the material for discharge.

6. Factual Determination (230.11) A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge as related to:

- | | |
|---|--------------------------------|
| a. Physical substrate at the disposal site
(review sections 2a, 3, 4, and 5 above) | YES <u>X</u> NO* <u> </u> |
| b. Water circulation, fluctuation and salinity
(review sections 2a, 3, 4, and 5) | YES <u>X</u> NO* <u> </u> |
| c. Suspended particulates/turbidity
(review sections 2a, 3, 4, and 5) | YES <u>X</u> NO* <u> </u> |
| d. Contaminant availability
(review sections 2a, 3, and 4) | YES <u>X</u> NO* <u> </u> |
| e. Aquatic ecosystem structure and function
(review sections 2b and c, 3, and 5) | YES <u>X</u> NO* <u> </u> |
| f. Disposal site
(review sections 2, 4, and 5) | YES <u>X</u> NO* <u> </u> |
| g. Cumulative impact on the aquatic ecosystem | YES <u>X</u> NO* <u> </u> |
| h. Secondary impacts on the aquatic ecosystem | YES <u>X</u> NO* <u> </u> |

7. Evaluation Responsibility

- a. This evaluation was prepared by: Jane M. Boslet *Jane M. Boslet*
Position: Project Manager
- b. This evaluation was reviewed by: Bruce H. Bennett *Bruce H. Bennett*
Position: Acting Chief, North Evaluation Section

8. Findings

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines. Y
- b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions: _____
- c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s):
- 1) There is a less damaging practicable alternative _____
 - 2) The proposed discharge will result in significant degradation of the aquatic ecosystem _____
 - 3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem _____

5/4/92
(date)

Dolan Dunn
DOLAN DUNN
Acting Chief, Regulatory Branch

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✓ 100
BOSLET/3944
CESWG-CO-RN

ENVIRONMENTAL ASSESSMENT
AND
STATEMENT OF FINDINGS

1. Name and Address of Applicant.

Houston International Terminal
18001 Interstate 10 East
Channelview, Texas 77530

2. Corps Authority. Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

3. Project and Site Description. The proposed project is located in the San Jacinto River, along the south bank, just north of the Interstate 10 bridge, in Channelview, Harris County, Texas. The applicant seeks authorization to dredge 9.25 acres of sand to a depth of -18.0 feet mean sea level for commercial sale and to provide a barge berthing area. The dredging would be performed in four stages of 2.6, 3.1, 1.9, and 1.6 acres. Along with each stage of dredging, a phase of smooth cordgrass marsh would be created using the overburden from the dredging. Initially, a 4.3 acre area would be planted, followed by 5.1, 3.2, and 2.6 acres (15.2 acres total) to coincide with the final three dredging stages. The mitigation plan entails planting smooth cordgrass on three-foot centers at an elevation of -0.5 feet mean high water with each planting consisting of a single plug containing one to four stems. The applicant will replant, as necessary, any area with less than 70 percent survival after one year. In addition, each phase of the grass planting will be fenced with wire mesh to prevent excess sloughing of the overburden material and grazing by herbivorous fish in the river. All slopes in the dredging area will be 3:1.

4. Environmental Assessment.

a. Purpose and for the Work. The purpose of the project is twofold, to create a barge fleeting area and to commercially sell the dredged sand. The need for a barge fleeting area exists in order to accommodate barges that service numerous petrochemical industries in the Houston area, especially during an emergency such as a hurricane.

b. Alternatives. There are no unresolved conflicts concerning alternatives.

c. Environmental Setting. The project site is a flooded bottomland that has been substantially altered by subsidence, erosion, and sedimentation. The area is open shallow water with a few islands on the northern border. The area was once a

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freshwater, palustrine forested wetland area and is now estuarine. Salinities regularly reach 10 parts per thousand in the area. Since the area has subsided, its value and function has changed to nursery and forage habitat for juvenile, estuarine-dependent fish and shellfish. Birds also utilize the shallow flats as foraging habitat.

d. Environmental Impacts. The possible consequences of this proposed work were studied for environmental concerns, social well-being, and the public interest, in accordance with regulations published in 33 C.F.R. 320-330. All factors which may be relevant to the proposal must be considered. The following factors were determined to be particularly relevant to this application and were evaluated appropriately.

(1) Historic and Cultural Resources. The National Register of Historic Places has been consulted and no properties are listed in the permit area. No sites that are eligible for listing or potentially eligible for listing on the National Register are expected to be impacted by the work.

(2) Navigation. The dredging should not impede commercial or recreational navigation. The project site is outside of the river channel and very shallow, so boat use does not occur in the immediate area. After completion, the basin site will provide mooring area for barges which will aid navigational safety.

(3) Water Quality. The Texas Water Commission certified that the project would not violate established Texas Water Quality Standards pursuant to the provisions of Section 401 of the Clean Water Act.

Temporary turbidity is probable during construction operations resulting in minimal damage to fish and wildlife habitat and other biota. No lasting water pollution will occur.

(4) Endangered Species. No known endangered species or their critical habitat will be affected by the proposed work.

(5) Fish and Wildlife Values. The project site is a shallow water, estuarine habitat. Wading birds utilize the area for foraging. The site also provides nursery and forage habitat for juvenile estuarine dependent fish and shellfish that are important commercial and recreational species.

(6) Floodplain Management. In accordance with Executive Order 11988, the District Engineer should avoid authorizing floodplain developments whenever practicable alternatives exist outside the floodplain. This proposed

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activity is dependent on being located in or adjacent to the aquatic environment and impacts to the floodplain would be minimal.

(7) Shore Erosion and Accretion. Increased shoreline erosion or accretion is not expected to occur as a result of this project. Overburden material will be deposited in four phases along existing islands and the southern boundary of the dredging area and planted with marsh grass. Once established, the grasses should act to prevent erosion rates from increasing.

(8) Wetlands. Currently, smooth cordgrass and dwarf spikerush exist on the perimeters of several small islands between the project site and the river channel. Planting has been conducted over the past few years in efforts to reestablish the brackish marsh around the islands. As mitigation for this project's impacts to shallow open water habitat, 15.2 acres of marsh will be planted in four phases, concurrent with four stages of dredging. Smooth cordgrass will be planted on three-foot centers at an elevation of -0.5 feet mean high water. The plantings will be one to four stems each and replanting will occur after one year, if 70 percent survival is not reached. Functions and values of the wetlands should be enlarged and enhanced by this project.

(9) Other Federal, State, or Local Requirements. All required Federal, State, and/or local authorization or certifications necessary to complete processing of this application have been obtained. No required authorizations or certifications have been denied and none are known to exist which would preclude finalization of this permit action.

(10) Other Factors Considered. The following factors were considered during the evaluation process but were determined to not be particularly relevant to this application: conservation, economics, general environmental concerns, flood hazards, land use, recreation, water supply and conservation, energy needs, safety, food and fiber production, and mineral needs.

e. Cumulative Impacts. The assessment of cumulative impacts takes into consideration the effects upon an ecosystem of past, present, and reasonable foreseeable future projects. Every application must be considered on its own merits and its impacts on the environment must be assessed in light of historical permitting activity along with anticipated future activities in the area. Although a particular project may

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constitute a minor impact in itself, the cumulative effect of a large number of such projects could cause a significant impairment of water resources and interfere with the productivity and water quality of existing aquatic ecosystems.

Permits for sand dredging and barge fleeting basins have been issued in the past in many of Texas' river systems. Impacts of sand dredging in Texas river systems may be cumulative. In this application, the location of the dredging area is just north of a heavily industrialized area of the San Jacinto River that is routinely dredged. The river north of the project site is primarily used for recreational purposes. Sediment entering from small tributaries or runoff continues to accumulate, however much of the river-borne sediment is stopped from further downstream flow by the Lake Houston dam. It is this agency's contention that little river-borne sand from the upper reaches of the San Jacinto River actually make it to the beaches and estuary of Galveston Bay due to the numerous maintenance dredging projects that take place in the lower San Jacinto River and the Houston/Galveston Ship Channels and the Gulf Intracoastal Waterway. While cumulative impacts of sand dredging may occur in other river systems, this particular project, in the manner and location it is to be conducted is not expected to contribute to cumulative detrimental impacts to the natural environment.

f. Findings of No Significant Impact. There have been no significant adverse environmental effects identified resulting from the proposed work. The impact of this proposed activity on aspects affecting the quality of the human environment has been evaluated and it is determined that this action does not require an Environmental Impact Statement.

5. Statement of Findings.

a. Coordination. The formal evaluation process began with publication of a public notice on 31 January 1991. Copies of the public notice were forwarded to concerned Federal, State, and local agencies, organized groups, individuals and navigation districts. These entities included the following:

U.S. Fish and Wildlife Service
National Marine Fisheries Service
Environmental Protection Agency
U.S. Coast Guard
Texas Parks and Wildlife Department
Texas Historical Commission
General Land Office

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National Ocean Survey, Atlantic Marine Center
American Waterways Operators
Adjacent Property Owners

b. Response to the Public Notice.

(1) Federal Agencies. On 20 February 1991, the U.S. Fish and Wildlife Service (USFWS) recommended that the proposal be amended to include a depth of no more than one foot above the bottom elevation of the river or -12.0 feet mean sea level, that all intertidal emergent vegetation will be avoided, and that an area equal in size to that being excavated be enhanced to compensate for lost habitat due to the project. On 28 February 1991, the Environmental Protection Agency (EPA) recommended the applicant reduce the scope of the project to what is necessary for barge access, that the basin area be dredged no deeper than needed for barge access, that mitigation be performed at a 1:1 ratio to compensate for loss of shallow water habitat, and that a buffer zone be planned to protect adjacent areas with growing aquatic vegetation. On 1 March 1991, the National Marine Fisheries Service recommended the proposal be amended to limit the size of the excavation area to what is minimally required for a barge fleeting facility, that all vegetated wetlands be avoided, and that an area equal in size to the excavation be created or enhanced to provide tidal emergent habitat to compensate for unavoidable impacts to the environment. On 6 March 1991, the Soil Conservation Service (SCS) stated their opposition to the proposed project noting that they had been involved with a demonstration project to stabilize the shorelines of the islands between the work site and the river channel with marsh grass plantings. The project plans were coordinated with a Staff Archeologist on 10 January 1991.

(2) State and Local Agencies. On 8 March 1991, the Texas Parks and Wildlife Department (TPWD) recommended amending the proposal to reduce the size of the excavated area to the minimum size needed, to avoid all intertidal vegetation, to ensure a substantial buffer zone exists between the excavated area and the river channel, and to enhance or create an area equal to the dredged site for intertidal vegetation to establish. The Texas Water Commission (TWC) issued water quality certification for the project on 5 March 1991. On 14 March 1991, the TWC revoked its water quality certification for the project. On 6 March 1991, the Texas Department of Highways and Public Transportation (TDOT) recommended that no dredging operations be allowed closer than 100 yards from the Interstate 10 bridge and road right-of-way to ensure soil stability. On 1 March 1991, the Port of Houston Authority (PHA) recommended denial of the permit and stated concerns that the project would remove shallow water habitat and destroy the planting efforts

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done to reestablish brackish marsh habitat adjacent to the proposed work site. On 17 February 1991, the Texas Historical Commission stated that a cultural resources survey and evaluation was warranted for the proposed project area.

(3) Individual and Organized Groups. On 1 March 1991, the Galveston Bay Foundation (GBF) stated that for the past two years and for the next four years, they are involved planting marsh grasses in the intertidal zone of islands between the project area and the river channel as part of a demonstration project with the SCS and PHA. They stated opposition to the project in terms of aesthetics, safety, and habitat degrading practices of barge fleeting areas. On 9 February 1991, Robert M. Craig stated objections to the project. Specifically, he objected to the loss of habitat and productivity of shallow bay bottom and tidal wetlands due to dredging, possible increased air pollution from the barges, deterioration of the ongoing marsh grass plantings, possible archeological sites in the area, and the aesthetic and safety impacts a barge fleeting area would have on the area. On 14 May 1991, Exxon Pipeline Company stated concerns that the dredging would occur too close to their pipelines that run across the southern portion of the project and parallel to Interstate 10. They recommended that the limit of dredging operations be a distance of not less than 100 feet from the pipelines, that the Corps determine a slope that would be sufficient to prevent sloughing and erosion of the submerged bank, and that a 2-3-foot thick layer of soil be placed over the pipeline easement to provide additional protection from possible damage of large vessels coming to rest over the pipelines.

c. Response to Comments. On 12 March 1991, the comment letters were sent to the applicant. On 26 April 1991, the applicant submitted revised drawings, including a mitigation plan to representatives from the Corps, TPWD, and USFWS during a meeting. At that time the applicant was informed that the plans were inadequate and lacked cross-section views, elevations, and specific dimensions. All agency representatives recommended to the applicant that he hire an environmental consultant to help him with designs. On 27 May 1991, revised mitigation plans were submitted and subsequently coordinated with Federal and State resource agencies on 3 June 1991.

d. Response to Coordinated Mitigation Plans.

(1) Federal Agencies. On 18 June 1991, the NMFS recommended the entire 15.2 acres to be used for mitigation be planted with smooth cordgrass between 15 March and 31 May after dredging begins, with each planting consisting of 1 to 4 stems on 3-foot centers. In addition, no more than one 6-inch plug of

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source material per one-square yard shall be obtained from the borrow area in a manner that does not destroy or lower the ground elevation of the remaining marsh. A monitoring program should be conducted within 60 days of planting, with a second planting occurring if 50 percent survival has not been reached. A written report and photo documentation should be submitted to the Corps and NMFS following the survey. Similarly, if after 1 year 70 percent coverage has not been achieved, replanting should occur with a survey report and photo documentation submitted to the Corps and NMFS. On 11 June 1991, the USFWS stated it would have no objections to the project if the applicant agreed to plant smooth cordgrass in the 15.2 acre mitigation area on 3-foot centers.

(2) State and Local Agencies. On 10 July 1991, the TPWD stated that a permit from the TPWD Fisheries Division is required to plant grasses in state waters. In addition, they recommended that galvanized wire mesh fencing be used to protect them from grazing fish. On 14 June 1991, the TWC stated that in order to "re-review" a project they have denied water quality certification for, the proposed changes need to be re-public noticed as "revised."

(3) Individual and Organized Groups. On 26 June 1991, the GBF stated that the project still did not address planting grasses rather than allowing natural colonization, water quality issues, the purpose and need for the work, and engineering evaluation of protection of Exxon pipelines. On 21 June 1991, Exxon Pipeline Company stated that they upheld the concerns they stated in their 14 May 1991 letter. On 29 May 1991, Mr. Roy Vanya forwarded a letter he had sent to Houston Community Newspapers in Channelview, Texas stating concerns of increased water and air pollution, boat traffic, and decreased aesthetic values and recreational use of the river. On 29 May 1991, Allyson Burnett wrote a letter stating her opposition to the project and concerns of increased water pollution and erosion of the shoreline and a decline in the aesthetic value of the area.

On 2 August 1991, comment letters were sent to the applicant. On 18 September 1991 a revised Public Notice was issued that included a mitigation plan.

e. Response to Revised Public Notice.

(1) Federal Agencies. On 16 October 1991, the NMFS stated that they upheld recommendations made in their 18 June 1991 letter. On 24 October 1991, the USFWS stated no objections to the proposed project. On 1 November 1991, the EPA stated opposition to the project until the applicant develops an

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equitable mitigation plan that includes appropriate replacement, restoration, or enhancement of wetlands. On 7 November 1991, the FWS sent a revised letter recommending planting of smooth cordgrass be part of the mitigation plan.

(2) State and Local Agencies. On 30 September 1991, the TDOF were concerned that possibly some of the mitigation would encroach their right-of-way and potentially impact any future widening plans for Interstate 10. On 14 October 1991, the Crosby-Huffman Chamber of Commerce stated that the proposed barge facility would be detrimental to the river by inhibiting recreational use and potentially upset environmentally sensitive estuaries. On 11 October 1991 the Texas State Historic Preservation Officer concurred with the revised Public Notice. On 6 November 1991, the TPWD upheld comments made in their 10 July 1991 letter. They also stated that mitigation plans should contain a facility location diagram, cross-section details, descriptions of the terrestrial/wetland mitigation and landscaping planting, maintenance, and monitoring schedules. Finally, they stated that a -18.0 foot depth is in excess of depth needed for fleeting barges and that a sand dredging permit is required from them for commercial production of sand. On 6 November 1991, the TWC issued water quality certification for the revised project.

(3) Individuals and Organized Groups. On 21 September 1991, the Lone Star Chapter of the Sierra Club stated concerns about the project's impacts to surrounding wetlands and that planting of grasses should occur. On 30 September 1991, Exxon Pipeline Company stated it continued to uphold comments made in their 14 May 1991 letter. On 21 October 1991, the GBF stated that they upheld comments made in their 26 June 1991 letter.

f. Resolution of Outstanding Comments. On 19 December 1991, the applicant submitted rebuttal comments to objection letters. On 2 January 1992, the applicant was informed by telephone that details on planting densities, amounts, methods of stabilization of the mitigation plan (including cross-sections) needed to be submitted. On 3 January 1992, the applicant submitted a letter from the TPWD stating he did not need a sand dredging permit because the work was being conducted on private property. On 11 February 1992, the applicant submitted copies of letters from the dredging contractor and his insurance company stating that dredging would remain away from all pipeline easements and that the liability would lie on the dredging contractor if a violation occurred. In addition, the applicant stated that he was trying to work out planting details with guidance from the SCS and GBF. On 24 February 1991, the GBF stated that they would not participate in mitigation efforts with the applicant because they opposed barge operations north

PERMIT APPLICATION-19284

of the Interstate 10 Bridge. On 21 February and 12 March 1992, the additional mitigation information was submitted by the applicant. This provided for planting of smooth cordgrass in 4 phases to coincide with the dredging stages. Plantings would contain 1-2 stems each and be planted on 3-foot centers at a depth of -0.5 foot mean high water. The four phases are 4.3, 5.1, 3.2, and 2.6 acres in size (15.2 acres total) to coincide with dredging of 2.6, 3.1, 1.9, and 1.6 acres (9.25 acres total). This "staging" is to ensure that mitigation occurs in proportion to the amount of overburden dredged. On 25 March 1992, the applicant's consultant stated by telephone that the planting areas will be fenced to protect the grasses from predation by herbivorous fish. This will be made a condition to the permit. All slopes in the dredging area, whether around existing land or along mitigation sites, will be 3:1.

The final complete mitigation plan was coordinated by facsimile with Federal and State resource agencies on 16 April 1992. On 20 April 1992, the EPA, NMFS, and FWS all stated that they had no further objections to the proposal. On 21 April 1992, the TPWD stated via telephone that they would be sending further comments, however no further correspondence has been received.

g. **Conclusion.** We have reviewed and evaluated, in light of the overall public interest of the documents and factors concerning this permit application, as well as the stated views of other interested Federal and non-Federal agencies and the concerned public, relative to the proposed work in navigable waters of the United States. This evaluation is in accordance with the guidelines contained in 40 C.F.R. 230 pursuant to Section 404(b) of the Clean Water Act.

Based on our review, we find that the proposed project is not contrary to the public interest and that a Department of the Army permit should be issued.

FOR THE COMMANDER:

BHB
BENNETT

5/4/92
(Date)

Dolan Dunn
DOLAN DUNN
Acting Chief, Regulatory Branch

CONVERSATION RECORD

DATE: 20 April 1992

PERMIT APPLICATION: 19284

CONTACT: Mike Morgan, USFWS
Jay Gamble, EPA

NOTES: Both Mike Morgan and Jay Gamble called to say that their respective agencies did not have any further objection to the issuance of Permit 19284.

PROJECT MANAGER:

Jane Roslet

CONVERSATION RECORD

DATE: 24 and 25 March 1992

PERMIT APPLICATION: 19284

CONTACT: R. Darrell Smith, Smith-Jones Environmental
Services

Eddie Sidensticker, SCS

NOTES: Darrell Smith called to respond to my fax to him and Capt. Jack on 24 March 1992, recommending fencing be used around the new marshes to protect them from grazing herbivorous fish (grass carp). I also spoke with Eddie Sidensticker on 24 March, inquiring if the fencing was necessary in that area, since he has done extensive planting and advising for the Galveston Bay Foundation on the adjacent islands. He said unless grasses are in the fencing, the grass carp will eat it all.

PROJECT MANAGER:

Jane M. Boslet

CONVERSATION RECORD

DATE: 24 and 25 March 1992

PERMIT APPLICATION: 19284

CONTACT: R. Darrell Smith, Smith-Jones Environmental
Services

Eddie Sidensticker, SCS

NOTES: Darrell Smith called to respond to my fax to him and Capt. Jack on 24 March 1992, recommending fencing be used around the new marshes to protect them from grazing herbivorous fish (grass carp). I also spoke with Eddie Sidensticker on 24 March, inquiring if the fencing was necessary in that area, since he has done extensive planting and advising for the Galveston Bay Foundation on the adjacent islands. He said unless grasses are in the fencing, the grass carp will eat it all.

PROJECT MANAGER:

Jane M. Boslet

R. Darrell Smith - Smith-Jones Environmental Services
24 March 1992

Darrell:

The Addendum to the Mitigation Plan and subsequent letter stating that the mitigation would occur in proportion to the dredging (in 4 phases) appears to be O.K. One final comment made by the U.S. Fish and Wildlife Service is that the planted areas should be protected with fencing and/or caging to protect the marsh during establishment from grazing fish. During our site visit last spring, I noted that the plantings done by the Galveston Bay Foundation were, in fact, protected by chicken wire fencing (and caging in instances). I believe Eddie Sidensticker would agree on this recommendation. I would like to include a condition on the permit to the effect that fencing would be used to protect the new plantings to prevent grazing and help retain the soil until the grasses establish themselves. Replanting of areas with less than 70 percent survival through natural mortality would occur after 1 year as you stated. Of course, mortality of grasses due to hurricanes, spills outside of the applicant's control, etc.. would not need to be replanted.

If this is satisfactory, please let me know and I'll start the final summary documents. I think this is all that needs to be addressed. Thanks.

Jane Boslet

Copy to:

Captain Jack Roberts, HIT

17 MAR 1992

Mr. John Boalst
19284, Houston
P.O. Box 1229
Dickinson, Texas 77553-1229

Re: Permit Application 19284, Houston International Terminal

Dear Mr. Boalst:

This is in reference to your telephone request of earlier today for some additional information concerning the proposed mitigation for Houston International Terminal's pending permit application. Specifically, you requested the number of acres that will be dredged in each of the four phases referenced in the mitigation plan.

I spoke with Capt. Roberts this afternoon, and he proposes to make each dredging phase proportional with the amount of mitigation which will be performed. In other words, since the area to be dredged will be as much as 9.25 acres, the first phase would be complete when 2.6 acres have been dredged. The remaining three phases would involve additional dredging of 3.1, 1.9, and 1.6 acres, respectively.

If you require anything further, please do not hesitate to contact me. Thank you for your time and consideration.

Sincerely,


R. Darrell Smith

cc: Capt. Jack Roberts
Houston International Terminal



JONES/SMITH ENVIRONMENTAL SERVICES, INC.

4606 28th Street

Dickinson, Texas 77539

Phone: (713) 534-3432, Fax: (713) 337-2709

* JANE BOSCO T P.1 MAR 12 1992

**Addendum to Conceptual Mitigation Plan Prepared for
Houston International Terminal**

In the course of the permit evaluation, several parties — such as the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Galveston Bay Foundation — expressed concerns about the proposed mitigation. In order to address these concerns, Houston International Terminal (the Applicant) proposes to plant the areas of suitable elevation referenced in the mitigation plan (approximately 15.2 acres) with Smooth Cordgrass, *Spartina alterniflora*.

The planting will be performed in four phases (Figure 3) as the dredging progresses. The first phase would consist of planting approximately 4.3 acres, and would begin between March 15 and May 31 of the first year following initiation of dredging operations. The remaining three phases (5.1 acres, 3.2 acres, and 2.6 acres, respectively) would occur over the 7 to 10 year life of the project. Since the commercial demand for sand will dictate the rate at which dredging occurs, a definite timetable cannot be guaranteed for phases 2, 3, and 4, although the March 15 to May 31 window will be adhered to whenever planting occurs.

Per the U.S. Fish and Wildlife Service's June 11, 1991, and the National Marine Fisheries Service's June 18, 1991, comment letters, the Smooth Cordgrass will be planted on three-foot centers. The areas to be planted will be leveled at -0.5 feet MHW. Each planting unit will consist of a single plug containing one to four stems.

To avoid damage to the marsh where the transplants will be acquired, no more than one six-inch plug of source material per one square yard will be obtained. In addition, the Applicant will, to the greatest extent practicable, access the source material in the borrow marsh in a manner that does not destroy or lower the ground elevation of the marsh. Although the Applicant would be willing to replant any areas with less than 70 percent survival through normal mortality after a one year period, this would not include mortality as a result of oil or chemical spills, boat traffic, hurricanes, or similar events beyond the Applicant's control.

In addition, the proposed mitigation will be dependent upon whether or not there is sufficient sand to be commercially feasible. In this regard, once the permit is issued, a minimal pilot dredging operation will be conducted in order to make this determination. If it is determined that there is insufficient sand to proceed, no additional dredging will occur and the Applicant will not be bound to initiate or complete the mitigation.

According to the Galveston Bay Foundation's March 1, 1991, comment letter, they plan to continue cordgrass planting in the project area for at least four more years. The Applicant will be willing to cooperate with the Foundation in this endeavor if the dredging project is feasible. Houston International Terminal believes the proposed mitigation will greatly improve the habitat diversity of the area, and is more than adequate compensation for the shallow water habitat that will be lost as a result of the proposed dredging activity.

EXHIBIT B-2

EXHIBIT B-2



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

REPLY TO
ATTENTION OF:

December 21, 1995

Evaluation Section

SUBJECT: Permit No. 19284(01); Extension of Time

FILE COPY


Captain Jack Roberts
Houston International Terminal
2918 Green Tee Drive
Pearland, Texas 77581

Dear Captain Roberts:

Your November 29, 1995, request to extend the time to complete your project is approved. The time for completing the approved work is extended to December 31, 1999.

All conditions of the permit remain in full force and effect.

FOR THE DISTRICT ENGINEER:


Bruce H. Bennett
Leader, North Evaluation Unit

Copies Furnished:

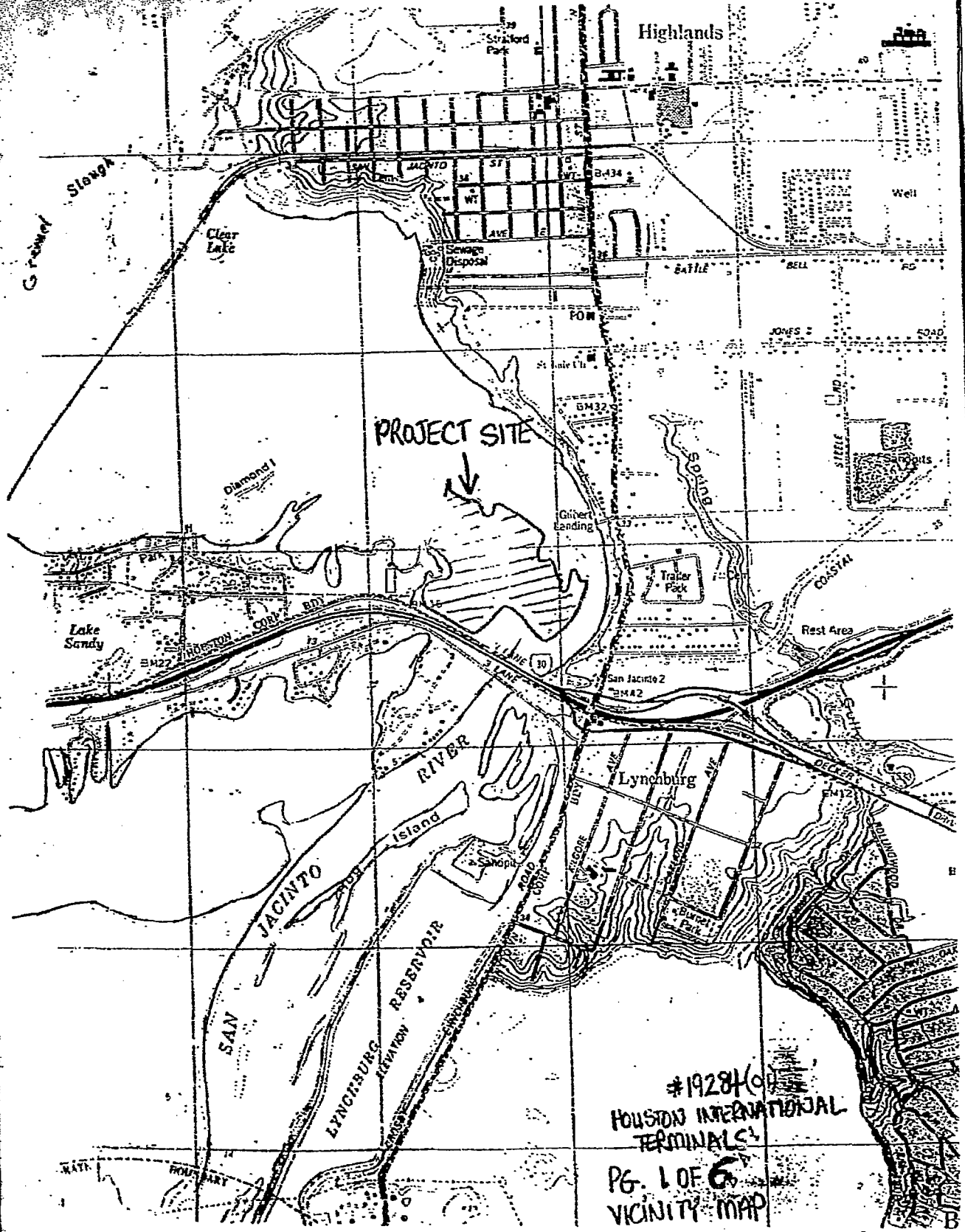
Eighth Coast Guard District, New Orleans, LA

NOAA/NOS, Coast & Geodetic Survey, Silver Spring, MD

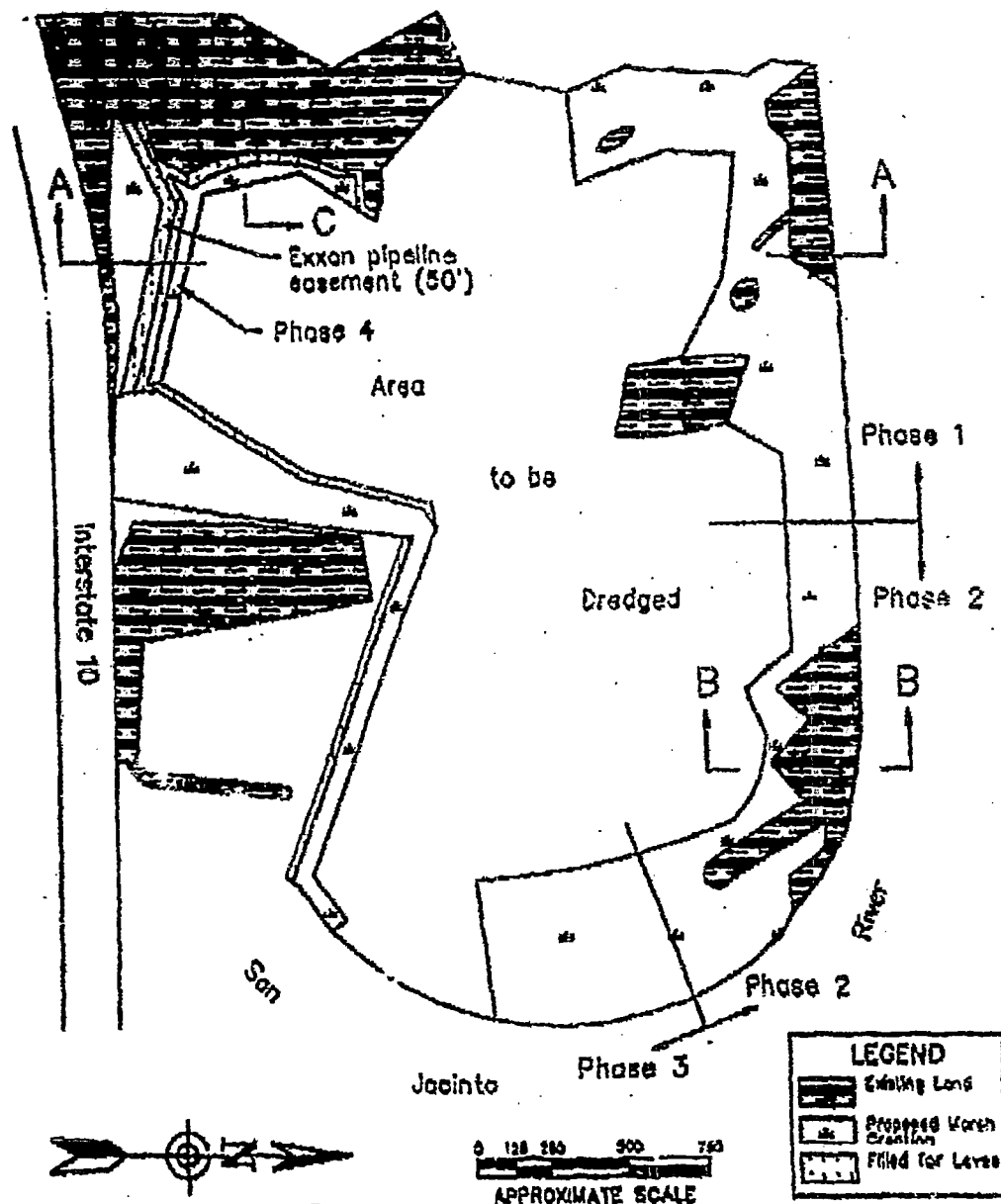
Texas General Land Office, Austin, TX

Texas General Land Office, La Porte, TX

Area Engineer, Northern Area Office, Galveston, TX



#192840
HOUSTON INTERNATIONAL
TERMINALS
PG. 1 OF 6
VICINITY MAP
USGS Quad: Highlands

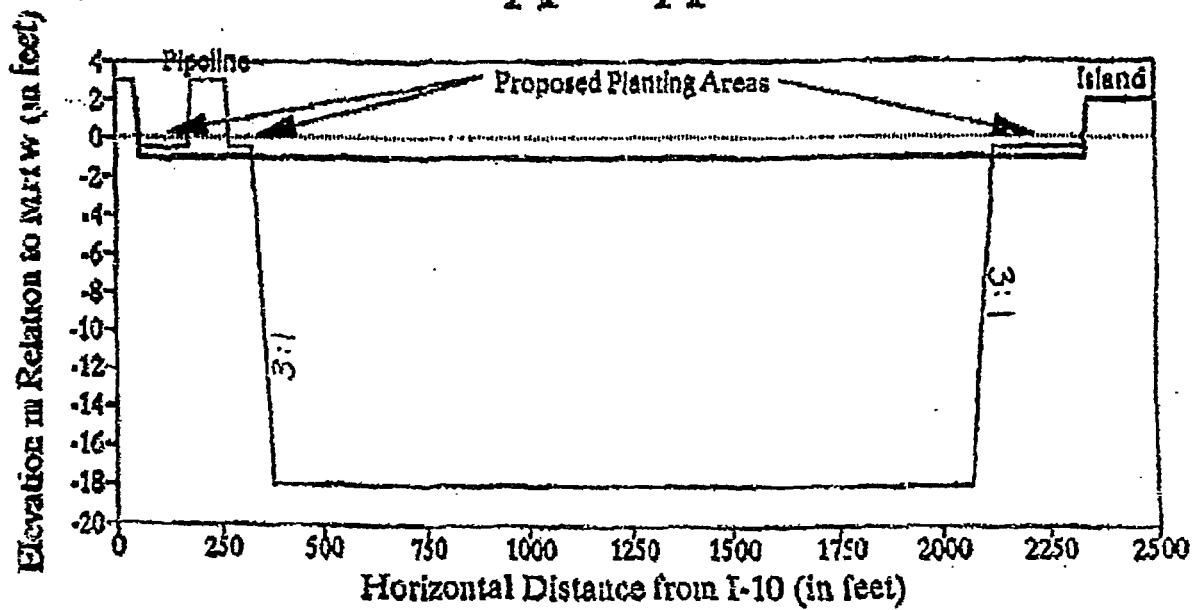


- NOTES:
- ① ALL SLOPES AROUND PERIMETER OF DREDGING Plan view of proposed mitigation WILL BE 3:1
 - ② ALL PLANTED AREAS WILL BE PROTECTED BY "CAGING" OR FENCING.

19284(01)
HOUSTON
INTERNATIONAL TERMINAL
PG. 2 OF 5

Cross Section of Dredged Area

A --- A



SLOPES = 3:1

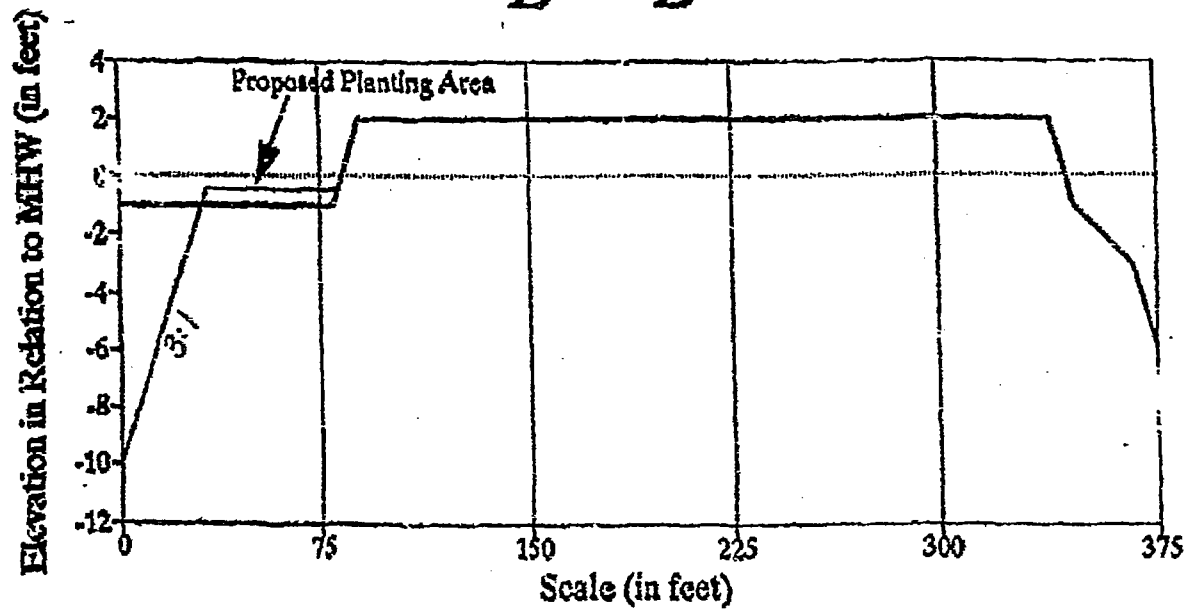
— Proposed Contour — Existing Contour

Cross-section A --- A of proposed mitigation

#19284(01)
HOUSTON INTERNATIONAL
TERMINALS

PG. 3 OF 5

Cross Section of Planting Area B --- B



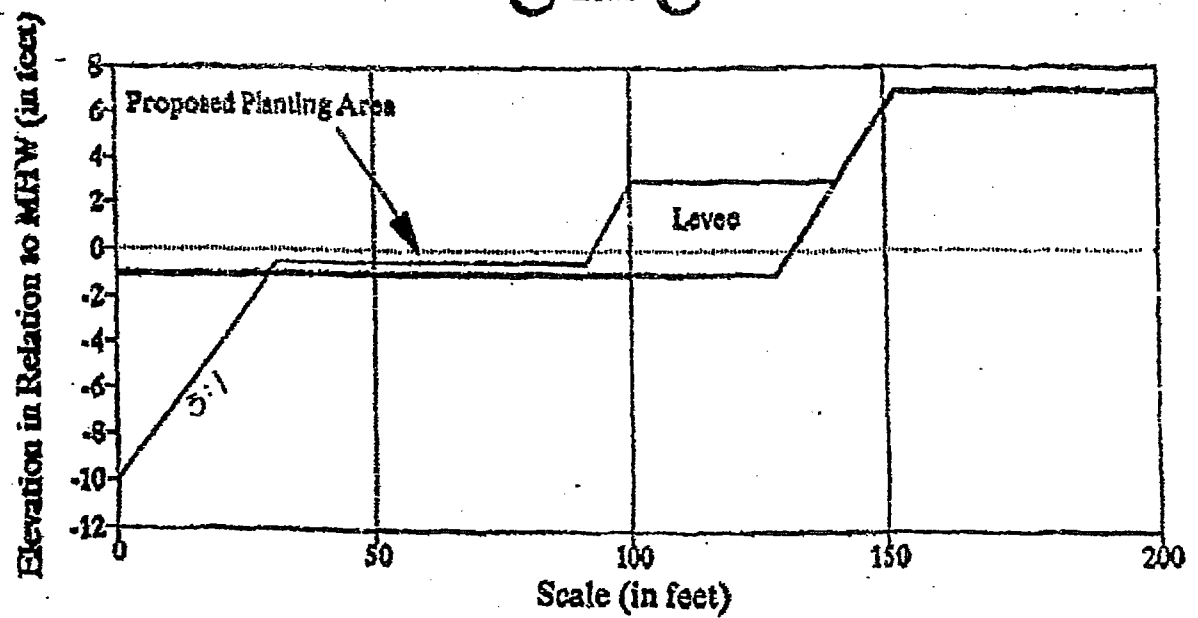
SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross-section B --- B of proposed mitigation

#19284(01)
HOUSTON INTERNATIONAL
TERMINALS
PG. 4 OF 6

Cross Section of Planting Area C --- C



SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross-section C --- C of proposed mitigation

#19284(01)
HOUSTON INTERNATIONAL
TERMINALS
Pg. 5 OF 6

Addendum to Conceptual Mitigation Plan Prepared for
Houston International Terminal

In the course of the permit evaluation, several parties — such as the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Galveston Bay Foundation — expressed concerns about the proposed mitigation. In order to address these concerns, Houston International Terminal (the Applicant) proposes to plant the areas of suitable elevation referenced in the mitigation plan (approximately 15.2 acres) with Smooth Cordgrass, *Spartina alterniflora*.

The planting will be performed in four phases (Figure 3) as the dredging progresses. The first phase would consist of planting approximately 4.3 acres, and would begin between March 15 and May 31 of the first year following initiation of dredging operations. The remaining three phases (5.1 acres, 3.2 acres, and 2.6 acres, respectively) would occur over the 7 to 10 year life of the project. Since the commercial demand for sand will dictate the rate at which dredging occurs, a definite timetable cannot be guaranteed for phases 2, 3, and 4, although the March 15 to May 31 window will be adhered to whenever planting occurs.

Per the U.S. Fish and Wildlife Service's June 11, 1991, and the National Marine Fisheries Service's June 18, 1991, comment letters, the Smooth Cordgrass will be planted on three-foot centers. The areas to be planted will be leveled at -0.5 feet MHW. Each planting unit will consist of a single plug containing one to four stems.

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#19284(01)
HOUSTON INTERNATIONAL
TERMINALS
PG. 6 OF 6

PERMIT APPLICATION- 19284(01)

STANLEY/6345
CESWG-CO-RE

ENVIRONMENTAL ASSESSMENT
AND
STATEMENT OF FINDINGS

1. Name and Address of Applicant.

Houston International Terminal
18001 Interstate Highway 10 East
Channelview, Texas

2. Corps Authority. This document addresses the impacts of the proposed project as it pertains to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), which applies to the performance of work in or affecting navigable waters of the United States and Section 404 of the Clean Water Act (33 U.S.C. 1344), which applies to discharges of dredged and/or fill material into waters of the United States.

3. Project Site and Description. The applicant is requesting a 3-year extension of time to complete the project authorized under Department of the Army Permit Number 19284. This includes dredging of sand for commercial sale and the creation of a barge berthing area. In addition, the applicant will create approximately 15.2 acres of smooth cordgrass wetlands as mitigation. The project site is located in the San Jacinto River, along the south bank, north of the Interstate Highway 10 bridge in Channelview, Harris County, Texas.

4. Environmental Impacts. The possible consequences of this project were studied for environmental concerns, social well-being and the public interests in accordance with regulations published in 33 C.F.R. 320-330. Factors bearing on our review include: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people. An extension of time will be granted unless its approval is found to be contrary to the public interest.

5. Coordination. The documents and factors concerning this application were reviewed and evaluated in light of the overall public interest. It was determined that there have been no significant changes in the attendant circumstances since the authorization was issued, and that the work will proceed essentially in accordance with the approved plans and conditions. Therefore, a public notice was not required according to 33 C.F.R. 325.6(d).

The application was verbally coordinated with Federal and State resource agencies at a Permit Processing Meeting on 6 December 1995. No further coordination was requested by any of the agencies. The amendment was coordinated with a Staff Archeologist on 1 December 1995. No further actions were required.

6. Other Considerations. There have been no significant adverse environmental effects identified in relation to the project. The impact of the activity on the quality of the environment has been evaluated, and it is determined that this action does not require an environmental impact statement.


7. Conclusion. The decision to extend this permit, as prescribed by regulations published in 33 C.F.R. 320-330 is consonant with National policy statutes and administrative directives. On balance, extending the time for completion of work under Department of the Army Permit- 19284 is not contrary to the public interest.

FOR THE COMMANDER:

VAD
VER

22 Dec 95

(date)


KERRY M. STANLEY
Regulatory Specialist, North
Evaluation Unit

PERMIT APPLICATION # / ACTION ID: 19284(01)

CONVERSATION RECORD

Time: 1000 Date: 6 Dec 95

TYPE: Visit ☒ Conference Telephone
incoming outgoing

If conference/or visit location of occurrence: Room 268, Jadwin Building, Galveston

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU: _____

ORGANIZATION: JEM TELEPHONE # _____

SUBJECT: Verbal No Objection

SUMMARY: I explained the proposed project. All agencies offered a verbal no objection. Agency reps included:

Rusty Swafford - NMFS,
Mark - NMFS,
Andy Sipocz - TPWD, and
Doug Meyers - GLO.

NAME OF PERSON DOCUMENTING CONVERSATION: Kerry M. Stanley

EXHIBIT B-3

FILE COPY

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT CORPS OF ENGINEERS
P.O. BOX 1280
GALVESTON, TEXAS 77663-1280
January 23, 2003

REPLY TO
ATTENTION OF

Evaluation Section

SUBJECT: Permit No. 19284(03)

Houston International Terminal
Attn: CPT. Jack Roberts
2918 Green Tee Drive
Pearland, Texas 77581-5025

Dear CPT Roberts:

Your January 24, 2000, request to amend permit 19284(02) for an extension of time is approved pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Additionally, the mitigation plan to construct 9.0 acres of wetlands has been modified. Permit 19284 was issued on May 11, 1992 and authorized the dredging of sand for commercial sale and to create a barge berthing area, and required the creation of 15.2 acres of wetlands as mitigation for the project impacts. Amendment (01) extended the time for completion of the work until December 31, 1999. Amendment (02) reduced the required mitigation to 9.0 acres of created wetlands and modified the location of the mitigation site to be better protected from the normal flow of the river. The project is located in the San Jacinto River, along the south bank, north of the Interstate Highway 10 Bridge, in Channelview, Harris County, Texas.

All work is to be performed in accordance with the enclosed plans in 5 sheets, the mitigation plans, dated January 2, 2003, in 4 sheets and the original permit conditions, which remain in full force and effect, with the exception of the time limit for completion. This authorization expires on December 31, 2008. Please note the Notification of Administrative Appeal Options regarding this authorization as enclosed. This authorization is based on an approved jurisdictional determination. In addition to the original permit conditions, the following special conditions are added to your authorization:

1. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

-2-

2. The permittee will conduct the mitigation project in accordance with the mitigation plan, dated January 02, 2003, in Attachment 1.

Please notify the District Engineer, in writing, upon completion of the authorized work. A pre-addressed postcard has been enclosed for your convenience.

FOR THE DISTRICT ENGINEER:

Bruce H. Bennett
Bruce H. Bennett
Leader, North Evaluation Unit

Enclosures

Copies Furnished:

Eighth Coast Guard District, New Orleans, LA

U.S. Fish and Wildlife Service, Houston, TX

Texas General Land Office, Austin, TX

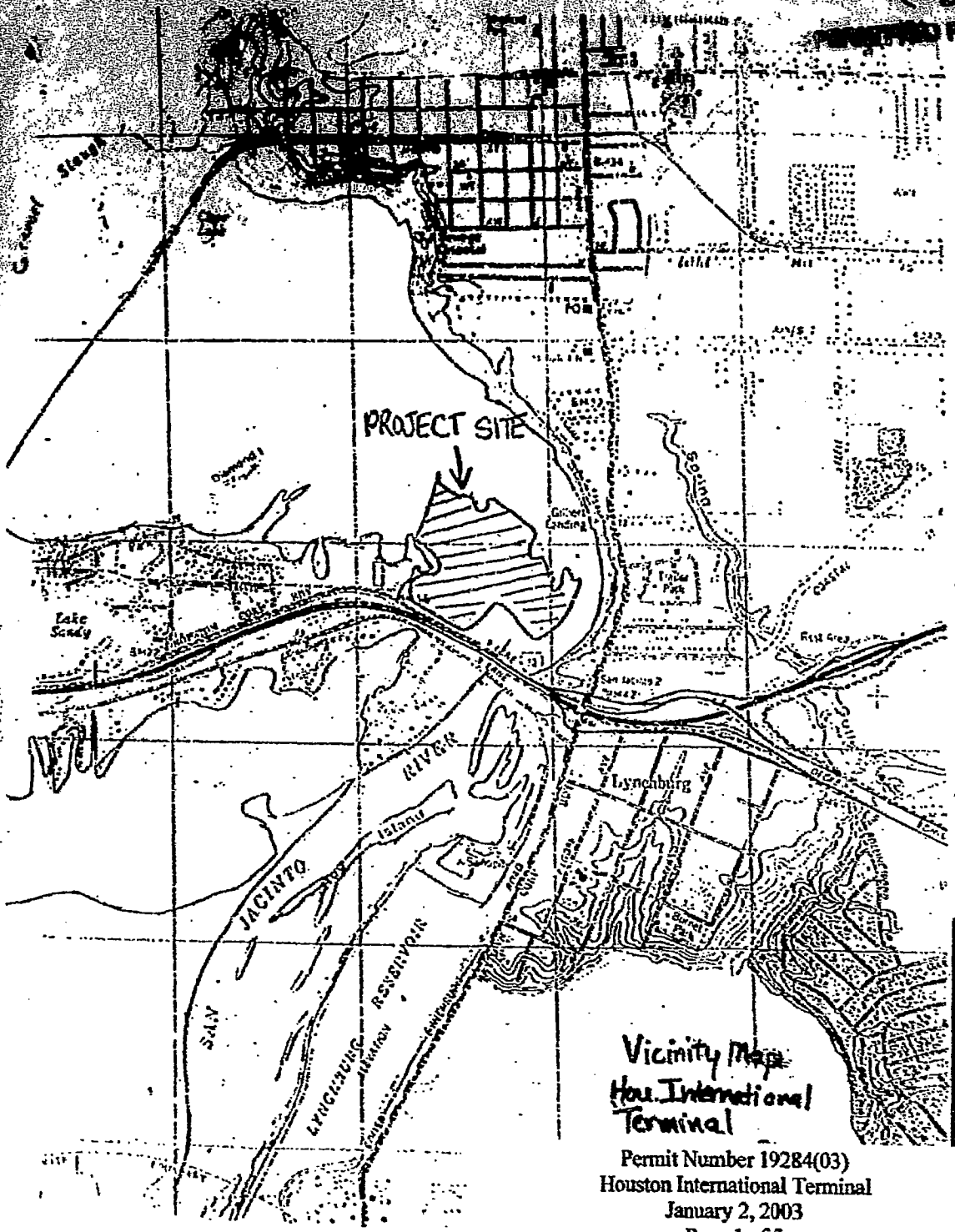
Texas General Land Office, La Porte, TX

Northern Area Office, Galveston, TX

Galveston Bay Foundation, TX

19284(03)(P.W.)

PERMITTED PLANS



Vicinity Map
Houston International
Terminal

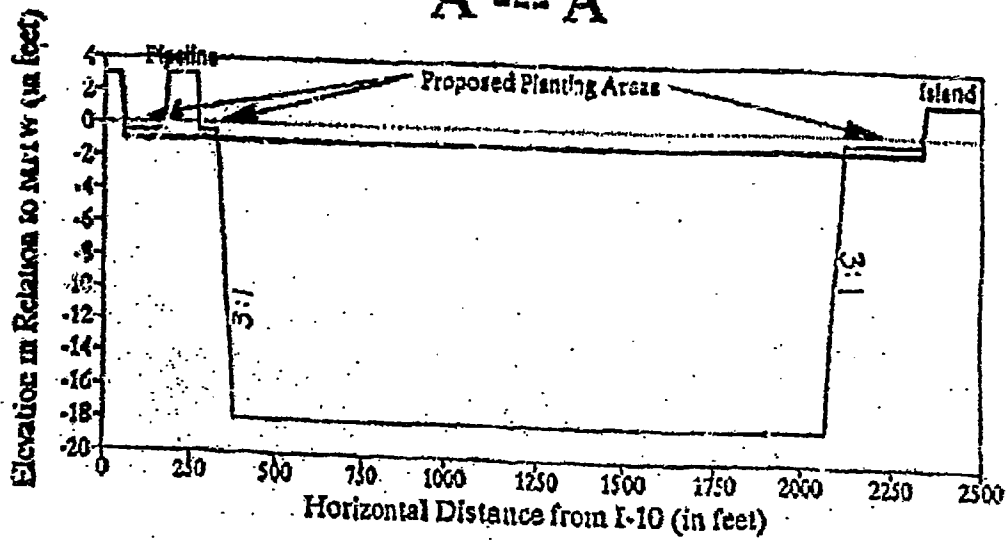
Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 1 of 5

USGS Quad:
Highlands

19284(03)(B)

PERMITTED PLANS

Cross Section of Dredged Area
A --- A



SLOPES = 3:1

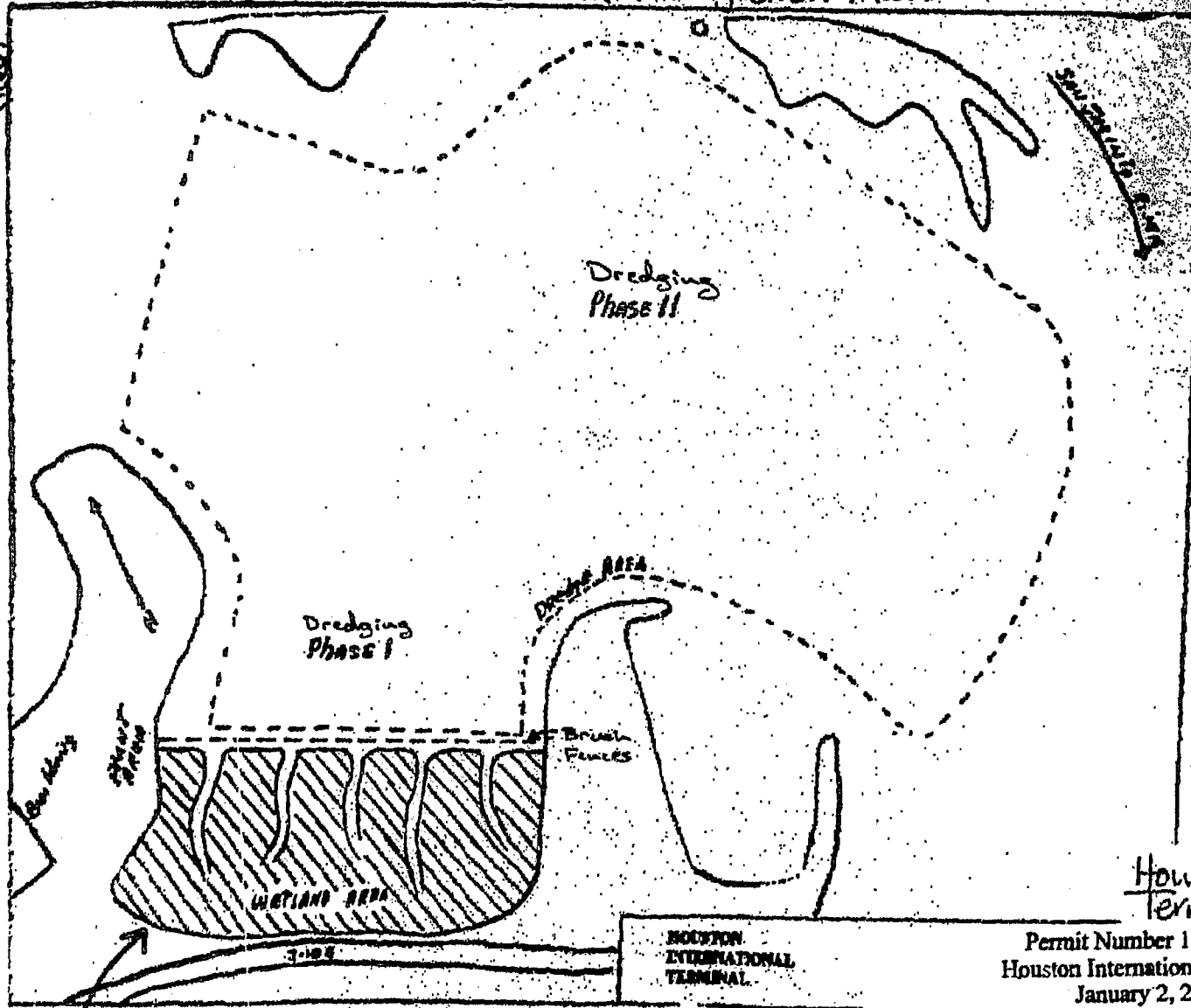
— Proposed Contour — Existing Contour

Cross-section A --- A of proposed mitigation

Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 2 of 5

19284(03)
(Rev)

Revised Mitigation Plan



proposed mitigation
area (9.0 acres)

Plan View

Houston International
Terminal

Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 3 of 5

PERMITTED PLAN 19284(03)
(Rev)

±300'

A

Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 4 of 5

Mitigation Plan

Brush Fence

±150'

±20'

±150'

±100'

WETLAND AREA

±1000'

Mitigation
Phase III

Mitigation
Phase II

Mitigation
Phase I

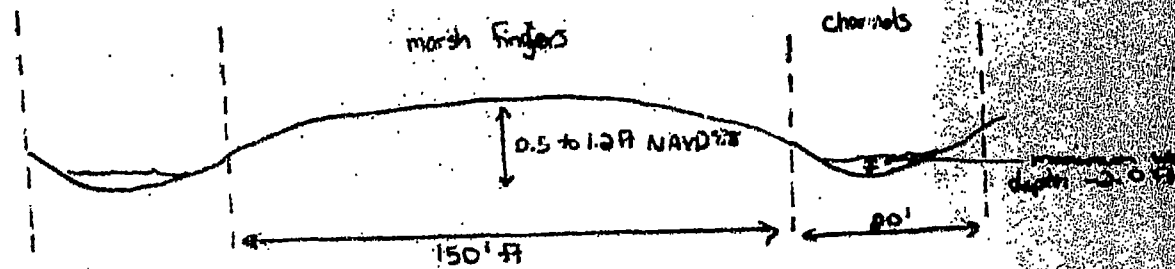
75%

906

A

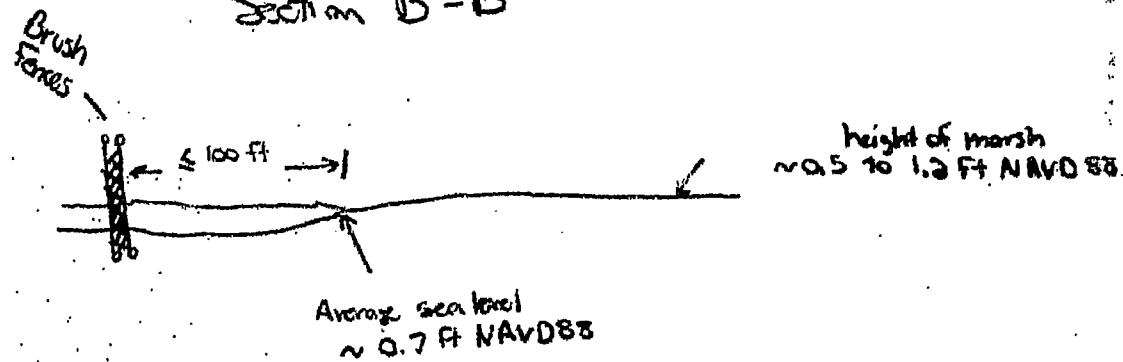
section views

Section A-A



N.T.S

Section B-B



PERMITTED PLAN

Houston International Terminal Permit Number 19284 (03)

Mitigation Plan

Purpose

This mitigation plan is designed to develop a 9.0-acre wetland, in three Phases, that is protected from the normal flow of the San Jacinto River and the erosion caused by tidal movements and boat traffic. The wetland areas will be protected on three sides by landmasses and on the river side by brush fences. The brush fences will allow normal tidal flow to take place to nurture the wetlands and will also provide a method of controlling the activities of herbivorous species, which could destroy developing wetland vegetation. The wetland area will be accessible from land, thereby making it easier to maintain.

Participants

The participants in the mitigation project will be:

Houston International Terminal (HIT)-owner of the site and holder of the permit

Dredging Contractor (DC)- the dredging contractor for HIT

Houston International Terminal owns the property and will enter into a contract with the DC to dredge the commercial sand from the property and to deposit the unwanted material into the designated wetland area to be developed as a wetland. Houston International Terminal will be solely responsible for the grading of material to suitable wetland elevations and the planting of target species. Additionally, all wetland vegetation and associated planting cost will be assumed by HIT.

Site

The property is located on the southwest side of the San Jacinto River, just north of Interstate Highway 10 (I-10) and contains approximately 200 acres, mostly under water. The proposed wetland area is shown on the attached drawing and is approximately 9.0 acres (1000 feet by 400 feet) in size. The wetland site is accessible from land and State right of way along I-10.

Currently, the wetland area has been fill above marsh creation elevations and needs to be graded to create the 9.0-acre wetland.

PERMITTED PLANS

Wetland Development and Timelines

The entire project when constructed will total 9.0 acres. The mitigation will be separated into three phases. Phase I will include the eastern most 300-foot-long by 400-foot-wide section. Phase II will include the central 300-foot-long by 400-foot-wide section. Phase III will include the western most 400-foot-long by 400-foot-wide section.

The construction of each phase will include the grading of material to a suitable elevation for the target vegetation, the excavation of the intertidal channels, the planting of the target vegetation, and initial survival monitoring of the target vegetation.

Upon six months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase I of the mitigation. Upon 12 months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase II of the mitigation. Upon 18 months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase III of the mitigation. All Phases of the mitigation (I, II, and III) must be completed with construction and planted within 24 months from the start of construction within jurisdictional areas.

Upon the occurrence that the applicant cannot find a dredging contractor who begins work in jurisdictional areas within 18 months, from the date of the re-authorization, the permittee must begin the mitigation time line (as described above) and proceed with the construction of the mitigation site. The day, 18 months from the date of the re-authorization, will be the "start of construction within jurisdictional areas" date for the purpose of the starting the mitigation timeline. If the permittee fails to begin final construction of the mitigation area within 18 months, the permittee will be in violation of the permit and the permit may be suspended and may be turned over to the Compliance Section to be resolved.

Planting and Maintenance

Overall, the 9.0-acre mitigation site will be comprised of 150-foot-wide by 300-foot-long fingers planted with vegetation and the remaining 100-foot-long by 1000-foot-wide section. The elevation of the wetland areas will be between +0.5 and +1.2 feet NAVD 88. The fingers will be separated by 20-foot-wide by 300-foot-long intertidal channels that will be excavated. The channels will have a maximum bottom depth of -2.0 NAVD 88 that then slope up to the +0.5 feet NAVD 88 marsh elevation. The target species will be California bulrush (*Scirpus californicus*), salt marsh bulrush (*Scirpus robustus*), narrow-leaved cattail (*Typha angustifolia*), and bull-tongue (*Sagittaria lancifolia*).

PERMITTED PLANS

The four species will be planted and planting should be done on 6-foot centers as single species clumps each measuring 30 feet by 30 feet. Three-foot centers will be planted along the shorelines. After planting, the area will be monitored annually and a report containing information on the current status of the mitigation project, percent survival of the planted wetland vegetation, percent aerial coverage of the wetland vegetation, and any problems encountered will be submitted to the Corps' Compliance Section for review. The report will contain factual information, as well as photographic illustrations of the mitigation area. As the mitigation phases are constructed, solutions may include, but are not limited to, adjustment of the elevations within the mitigation area, additional control of herbivorous species, additional erosion control, etc.... Annual reports will continue to be submitted for five years after planting Phase III of the mitigation area.

The mitigation area will be enclosed with plastic construction fencing nailed into wooden posts. If a brush fence is required to reduce wave erosion, the brush will be placed between two closely spaced rows of construction fencing. The fencing will also be installed in the uplands to reduce terrestrial herbivores. The fence will be removed when the minimum success criteria is met.

Success Criteria and Monitoring Reports

1. A transplant survival survey of the planted mitigation area must be performed within 60 calendar days following the initial planting effort for each phase. If at least 50% survival of transplants is not achieved within 60 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for re-planting targeted species is not suitable when replanting would be required, the Corps Galveston District (Corps) must approve a re-planting schedule.
2. Written reports detailing plant survival must be submitted to the Corps within 30 calendar days of completing the initial survival survey and any subsequent replanting effort.
3. If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications. If after two years from the initial planting effort (or subsequent planting efforts) the site does not have at least 50% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications.
4. If after five years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of targeted vegetation, the applicant must submit a supplemental mitigation plant to the Corps' Compliance Section for approval to achieve 70% aerial coverage of target vegetation.

PERMITTED PLANS

5. In addition to the initial survey report, progress reports will be submitted to the Corps Galveston District at 6 months, 1 year, 2 year, 3-year, 4-year, and 5-year intervals following the initial transplanting effort or subsequent replanting efforts. Photos of the mitigation site should be included.

6. At no time will invasive, non-native species be allowed. If invasive, non-native species exceed 5% aerial coverage within the mitigation site, the applicant will take measures to control and eradicate the species.

Applicant: Houston International Terminal		File Number: 19284(03)	Date: 01/23/2003
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B	
	PERMIT DENIAL	C	
X	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION II: NOTICE OF RIGHTS AND OPTIONS REGARDING A PERMIT OR APPROVED JD.
 Additional information may be found at <http://www.usace.army.mil/decisions/jd/sectionii/>
 Or Corps regulations 1-39 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved jurisdictional determination (JD) or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

REASONS FOR APPEAL OR OBJECTIONS. (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Ryan Fordyce, Regulatory Specialist
CESWG-PE-RE P.O. Box 1229
Galveston, Texas 77553-1229
Telephone: 409-766-3114; FAX: 409-766-3931

If you only have questions regarding the appeal process you may also contact:

James E. Gilmore, Appeal Review Officer
CESWD-ETO-R, 1100 Commerce Street
Dallas, Texas 75242-0216
Telephone: 214-767-2457; FAX: 214-767-9021
Email: James.E.Gilmore@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or authorized agent.

Date:

Telephone number:

PROJECT NAME: 1000 (2) ACTIVITY TYPE: Dredge/Navigation

PERMITTEE: Harbor Development Trust

ISSUE DATE: 20 Jan 92

EXPIRATION DATE: 31 Dec 93

ENVIRONMENT: San Juan Bay

LOCATION OF ACTIVITY: Mouth of I-9 Bridge in Kasaan

ADDRESS:

COUNTY/PARTIAL: Harris

AREA OFFICE: FPAO

MITIGATION INVOLVED: YES ☒

NO ☐

STATUS OF ACTIVITY (Compliance with plans; stage of completion; remarks of permittee; etc. (See reverse side for status indicators))

(01) No Action - Done - Awaiting dredge -

Nothing done

Spoke w/ Mr. Jack Roberts on phone and
he informed me of this. He will call
if they begin soon.

RECOMMENDATIONS: (ie. No Further Action Needed; Follow-up Inspection Recommended, etc.):

Follow-up in 10 months

INSPECTED BY: R. J. Jones

DATE INSPECTED: 8/21/92

STATUS INDICATORS

- (01) Active Permit-In Action (A)
- (02) Active Permit-Activity Incomplete, (A)
- (03) Expired Permit-Activity Complete-Satisfactory, (C)-
- (04) Active Permit-Activity Complete-Satisfactory, (C)
- (05) Expired Permit-In Action (C)
- (06) Expired Permit-Activity Incomplete, (I)
- (07) Expired Permit-Activity Incomplete with Deviation from Plans, (I)
- (08) Expired Permit-Activity Complete with Deviation from Plans, (I)
- (09) Active Permit-Complete with Deviation from Plans, (I)
- (10) Active Permit-Activity Incomplete with Deviation from Plans. (I)

STATEMENT OF FINDINGS
FOR
EXTENSION OF TIME

1. Name and Address of Applicant.

Houston International Terminal
2918 Green Tee Drive
Pearland, Texas 77581-5025

2. Corps Authority. Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

3. Project and Site Description. The applicant is seeking an extension of time to complete the work authorized under the original permit. Additionally, the mitigation plan will be modified to incorporate specific plans and construction criteria to increase success of the area. The project is located in the San Jacinto River, along the south bank, north of the Interstate Highway 10 Bridge, in Channelview, Harris County, Texas. The USGS Quad reference map is: Highlands, Texas.

4. Background Information. The original permit was issued on 11 May 1992 and authorized the dredging of sand for commercial sale and to create a barge berthing area, and required the creation of 15.2 acres of wetlands as mitigation for the project impacts. Amendment (01) extended the time for completion of the work until 31 December 1999. Amendment (02) reduced the required mitigation to 9.0 acres of created wetlands and modified the location of the mitigation site to be better protected from the normal flow of the river. The previous locations of the mitigation site have been impacted by erosion and flooding. The modified location would be protected from erosion. Additionally, the Galveston Bay Foundation (GBF) would plant and maintain the mitigation site and would accept a conservation easement on the property to utilize the area as a smooth cordgrass (*Spartina alterniflora*) nursery.

During the comment period of this extension of time, several concerns have been raised with respect to the agreement between the applicant and the GBF. In the original permit's Addendum to Conceptual Mitigation Plan Prepared for Houston International Terminal, the GBF had made an agreement with the applicant to continue to plant cordgrass in the area for 4 more years. Also, the applicant would cooperate with the GBF in this endeavor if the dredging project is successful.

In amendment (02), GBF continued to accept responsibility to plant and maintain the mitigation site. Due to GBF regime changes during this proposed extension of time, the GBF has no documentation or contracts with the applicant to construct the mitigation. Additionally, the GBF stated that the applicant did not provide them with financial support for the mitigation. The applicant had never obtained an easement for the mitigation site or had developed a contract

PERMIT APPLICATION - 19284(03)

other than verbal commitments with the former director of GBF. Through discussions with the applicant, it was decided to remove the GBF from every portion of the mitigation site and to hire an outside contractor to construct the mitigation. Therefore, the modified mitigation plan will omit the GBF as an acting party and remove the GBF conservation easement commitment.

5. Environmental Impacts. The possible consequences of this project were studied for environmental concerns, social well-being, and the public interests, in accordance with regulations published in 33 C.F.R. 320-330. Factors bearing on our review included: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people. An extension of time will be granted unless its approval is found to be contrary to the public interest.

6. Findings of No Significant Impact. There have been no significant environmental effects identified in relation to the project. The impact of the activity on the quality of the human environment has been evaluated, and it is determined that this action does not require an environmental impact statement.

7. Coordination. The documents and factors concerning this application were reviewed and evaluated in light of the overall public interest. It was determined that there have been no significant changes in the attendant circumstances since the authorization was issued, and that the work will proceed essentially in accordance with the approved plans and conditions. Therefore, a public notice was not required according to 33 C.F.R. 325.6(d).

The application was coordinated with concerned Federal and State resource agencies, as well as adjacent property owners, by letter dated 17 February 2000. The U.S. Fish and Wildlife Service (FWS) submitted a letter, dated 29 February 2000, stating that no significant adverse effects on fish and wildlife, their habitats, and human uses thereof, are expected to result from the proposed work activity. From the standpoint of fish and wildlife and their habitat the FWS has no objection to the issuance of these permits.

The National Marine Fisheries Service (NMFS) submitted a letter, dated 2 March 2000, stating that no information is included in the current request for an extension of time concerning which aspects of the project, if any have been completed. NMFS also stated that the project drawings are extremely vague and lack adequate details to ensure a properly planned wetlands mitigation plan. The proposed mitigation plan does not comply with current standard mitigation plan minimum success criteria or monitoring requirements. Herbivory issues and erosion protection issues need to be addressed. Without the aforementioned information and project revisions, NMFS cannot adequately assess the proposed impacts to Essential Fish Habitat (EFH) and associated living marine resources. The NMFS included the following EFH Conservation

PERMIT APPLICATION - 19284(03)

Recommendations:

1. Because the proposed mitigation has a high probability for failure due to herbivory and erosion, the applicant should be required to perform the initially required 15.2 acres of wetland creation as mitigation to compensate impacts to EFH and living marine resources.
2. All mitigation should be conducted by the applicant using established planting, monitoring, and reporting procedures, and all activities should be coordinated with both the Corps of Engineers, NMFS, and other state and Federal resource agencies.
3. To enhance functionality and habitat values in the created mitigation area, the design should incorporate tidal channels interspersed within vegetative planting areas that provide vegetation/water edge interface for living marine organisms.
4. The applicant should also address how the proposed mitigation plan will address erosion and herbivore grazing issues using currently employed technological solutions.

The NMFS also included other general recommendations:

1. All project plans and drawings need to be revised to reflect current site conditions. The current status of project and mitigation operations need to be updated and thoroughly discussed with all appropriate parties including the applicant, the Corps, NMFS, and other state and Federal resource agencies, and the GBF.
2. Detailed descriptions of the mitigation area construction, recontouring and filling techniques should be included as part of the permit conditions.
3. Detailed drawings of the proposed mitigation area should be revised to depict existing elevations and contours, proposed elevations and contours, elevations of any erosion protection features, herbivore fencing, target wetland plant area elevations, and the mean low and mean high water levels.

No response was received from the U.S. Environmental Protection Agency.

The Texas Parks and Wildlife Department submitted a letter, dated 1 April 2000, stating because of the current workload, their biologists are unable to adequately investigate this application, therefore, they can take no action on this permit at this time.

The Texas Coastal Coordination Council submitted a letter, dated 6 March 2000, stating that it has been determined that there are no significant unresolved consistency issues with respect to the project, therefore the project is consistent with the Coastal Management Program goals and policies.

PERMIT APPLICATION - 19284(03)

The GBF submitted a letter, dated 9 March 2000, stating that the GBF has no agreement for planting or a conservation easement with the applicant. Additionally, it appears that the mitigation for the permitted project has not been performed, and therefore the applicant is not in compliance with the original permit. Further extensions of time are not appropriate unless the applicant makes an effort to begin the mitigation immediately.

An inspection was conducted at the mitigation site, on 20 June 2002. In attendance were the applicant and the GBF. The GBF submitted a letter, dated 23 July 2002, stating that a measurable amount of fill material has been placed into the southern sections of all three mitigation phases at an even elevation. There were no tidal channels or planted vegetation present. The GBF has the following concerns and recommendations regarding the current state of the Phase I mitigation site:

1. The GBF agreed to assist with the proposed mitigation and accepted significant responsibility in the successful development, implementation, and completion of this project, yet we were not consulted concerning its implementation. There are not brush fences in place on the unprotected side of the mitigation site and the elevation of material is too high for *Spartina alterniflora*. The GBF is also concerned with the applicant beginning Phase II and III of the mitigation when Phase I is not complete.
2. Currently, because of the regime change at the GBF, the GBF is not aware of any previous agreement/contract between the GBF and the applicant. The GBF recommends that a formal conservation easement be signed and that funds for future plantings be agreed upon including appropriate allocations for replanting the site.
3. As previously recommended by NMFS, the GBF also recommends detailed mitigation plans be created with a feasible associated timeline for the completion of work.
4. The GBF stated that the dredged material currently being used a fill may not be of an appropriate substrate for marsh restoration.

No other comments were received.

7. Consideration of Comments. The applicant had submitted a letter, dated 11 March 2002, stating that approximately 75% of the Phase I mitigation is complete and is growing above expectations. The cost of the mitigation operations is in line with the estimated removal of sand that everybody agreed upon at the beginning of dredging. Additionally, the applicant stated that the GBF is not needed to construct the mitigation. It is the applicant's intention to cooperate and comply with all parties' requirements.

PERMIT APPLICATION - 19284(03)

The mitigation plan was revised to incorporate NMFS comments received during the comment period. First, construction fencing will be used to reduce any potential impact caused by herbivores. The fencing will allow the vegetation and root system to establish without grazing. Therefore, the applicant will not increase the mitigation site to 15.2 acres as requested by NMFS. The mitigation was reduced to 9.0 acres in amendment (02). Secondly, the revised mitigation plan incorporates established planting, monitoring, and reporting procedures. Additionally, the mitigation plans incorporate tidal channels to increase the vegetation/water edge interface for increased utilization of marine organisms. Other recommendations included updated project plans, detailed descriptions of the mitigation area and contours, and descriptions of existing contours. The applicant has submitted improved mitigation plans with specific elevations based on local TPWD marsh projects. Currently, the applicant has begun the mitigation construction with assistance from a local nursery.

The applicant has addressed all of the NMFS and GBF comments and has included the majority of the specific requests into the mitigation plan. The NMFS submitted a letter, dated 13 January 2003, stating that the permit revisions have adequately addressed and are consistent with EFH recommendations. Therefore, no further consultation is required for this action.

7. **Findings.** The applicant's mitigation plan has been revised to exclude the GBF and to give specific timelines for the mitigation to be completed. Overall, the project is minimal and will not impact water quality or fish and wildlife values. The proposed request is for an extension of time and has been reviewed for impacts in the past. Therefore, the continuation of the project is minimal and is in the public's best interest. The following special conditions will be added to the authorization:

1. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. The permittee will conduct the mitigation project in accordance with the mitigation plan, dated 2 January 2003, in Attachment 1.

PERMIT APPLICATION - 19284(03)

8. Conclusion. The decision to extend this permit, as prescribed by regulations published in 33 C.F.R. 320-330 is consonant with National policy statutes and administrative directives. On balance, extending the time for completion of work under Department of the Army Permit-19284(02) is not contrary to the public interest.

FOR THE COMMANDER:

1/17/03
(Date)

Kimberly A. McLaughlin
Bruce H. Bennett
Leader, North Evaluation Unit

EXHIBIT B-4



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON TX 77553-1229

FILE COPY

December 27, 2007

REPLY TO
ATTENTION OF:

EXHIBIT B-4

Evaluation Section

SUBJECT: Permit No. SWG-2007-1865; Extension of Time

Captain Jack Roberts
2435 Broadway Street
Pearland, Texas 77581-6407

Dear Capt. Roberts:

Your request, dated October 31, 2007, to amend Permit No. 19284(03) for an extension of time is approved pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The permit site is located in the San Jacinto River, along the south bank, north of the Interstate Highway 10 Bridge, in Channelview, Harris County, Texas.

Permit No. 19284 was issued on May 11, 1992, and authorized dredging for sand for commercial sale and to create a barge berthing area. In addition, it required the creation of 15.2 acres of wetlands as compensatory mitigation for project impacts. Amendment (01) extended the time to complete the work until December 31, 1999. Amendment (02) reduced the required mitigation to 9.0 acres of created wetlands and modified the location of the mitigation site to better protect it from river flows. The previous mitigation site location was impacted by erosion and flooding. Amendment (03) extended the time to complete the authorized work until December 31, 2008.

All work is to be performed in accordance with the enclosed plans in 5 sheets, the Mitigation Plan, in 4 sheets, and the permit conditions, which remain in full force and effect, with the exception of the time limit for completion. This authorization expires on December 31, 2013.

Please notify the District Commander, in writing, upon completion of the authorized work. A pre-addressed postcard has been enclosed for your convenience.

FOR THE DISTRICT COMMANDER:

Janet Thomas Botella
for
Bruce H. Bennett
Leader, North Evaluation Unit

Enclosures

Copies Furnished:
(See Page 2)

Copies Furnished:

Eighth Coast Guard District, New Orleans, LA

NOAA/NOS, Coast & Geodetic Survey, Silver Spring, MD

U.S. Fish and Wildlife Service, Houston, TX

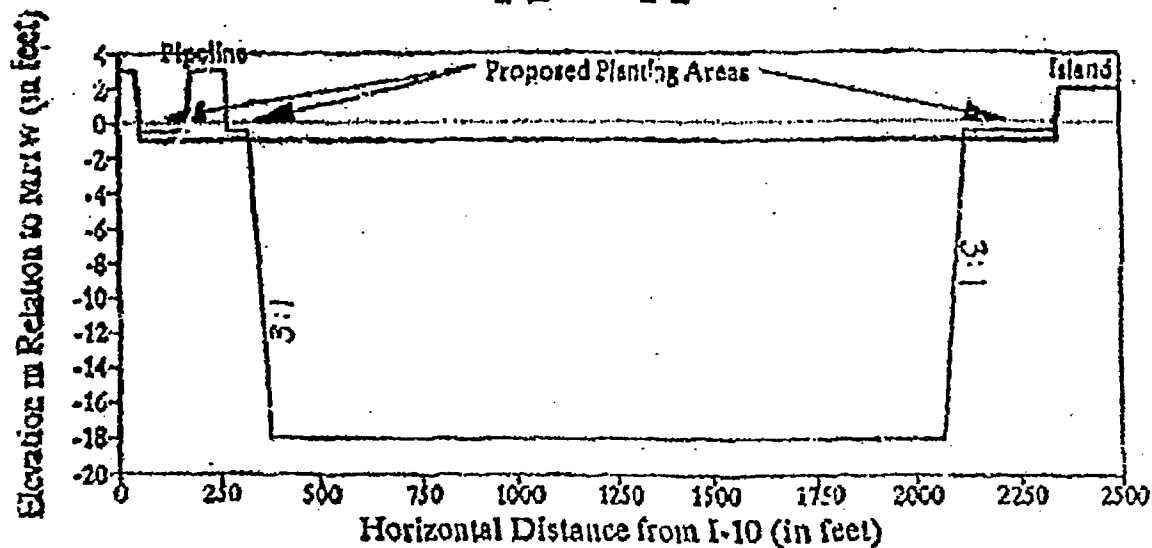
Texas General Land Office, Austin, TX

Texas General Land Office, La Porte, TX

Northern Area Office, Galveston, TX

Houston Resident Office, Galveston, TX

Cross Section of Dredged Area A --- A



SLOPES = 3:1

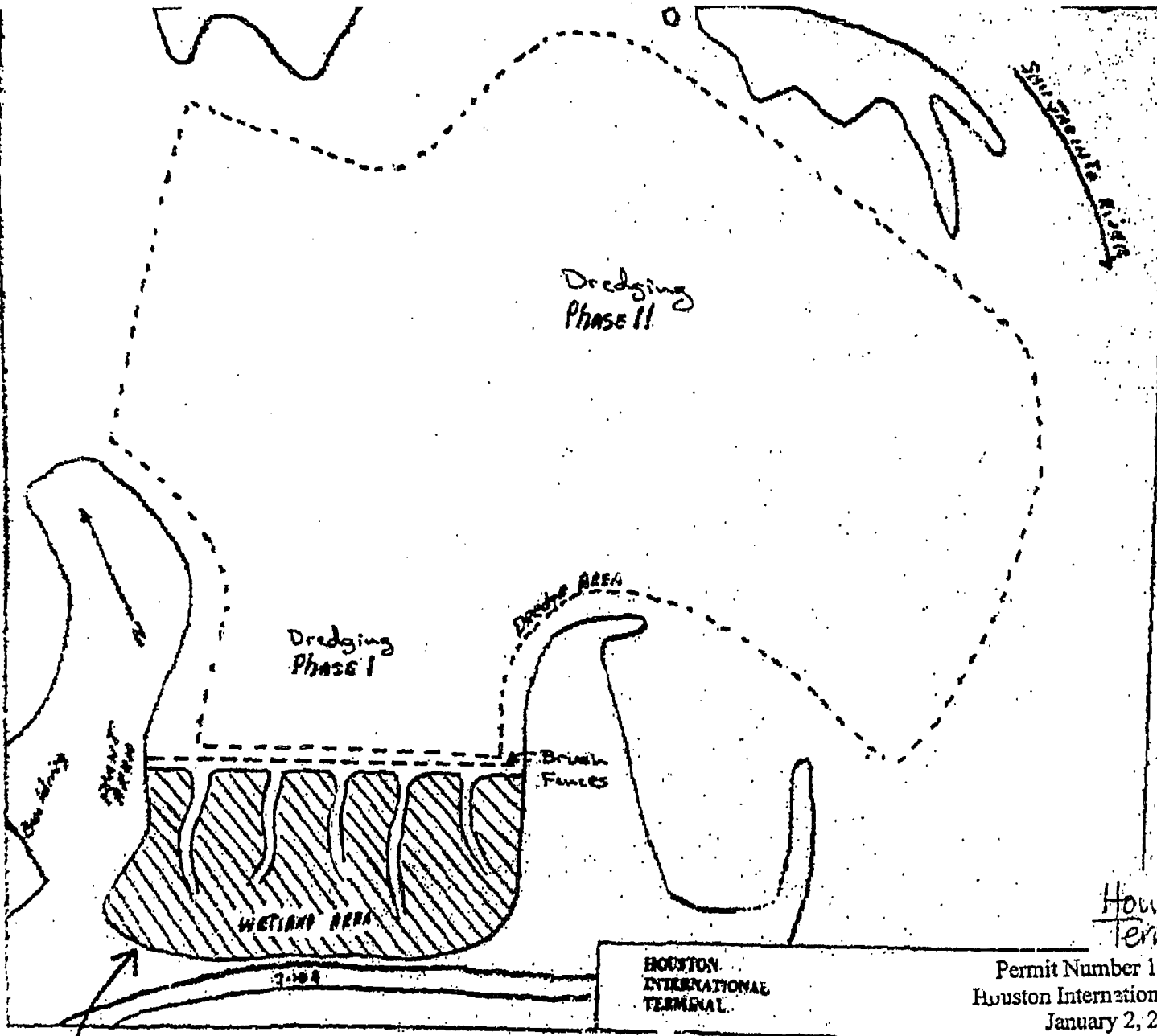
— Proposed Contour — Existing Contour

Cross-section A --- A of proposed mitigation

PERMITTED PLANS

Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 2 of 5

SWG-2007-1865



Plan View

Houston International Terminal

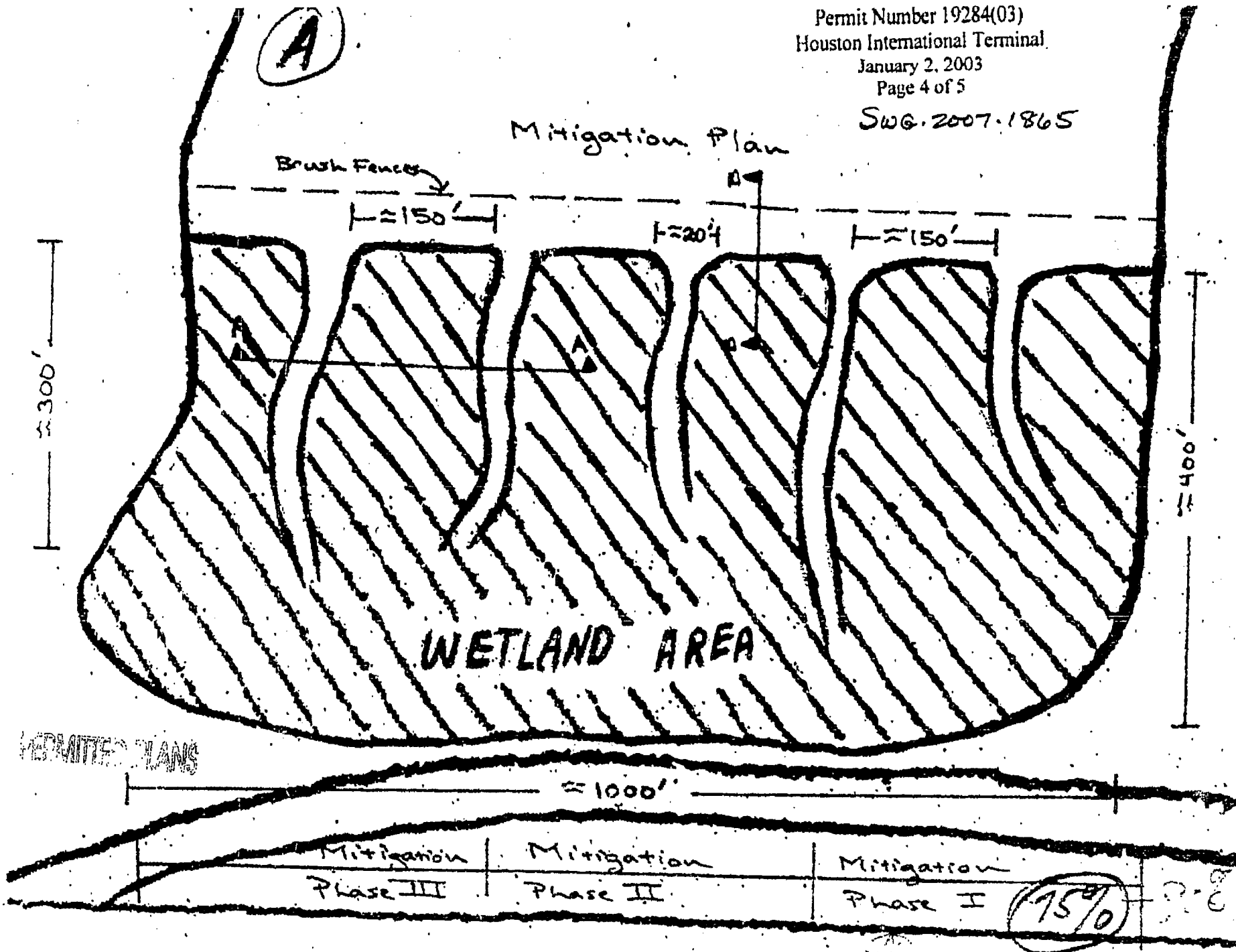
Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 3 of 5

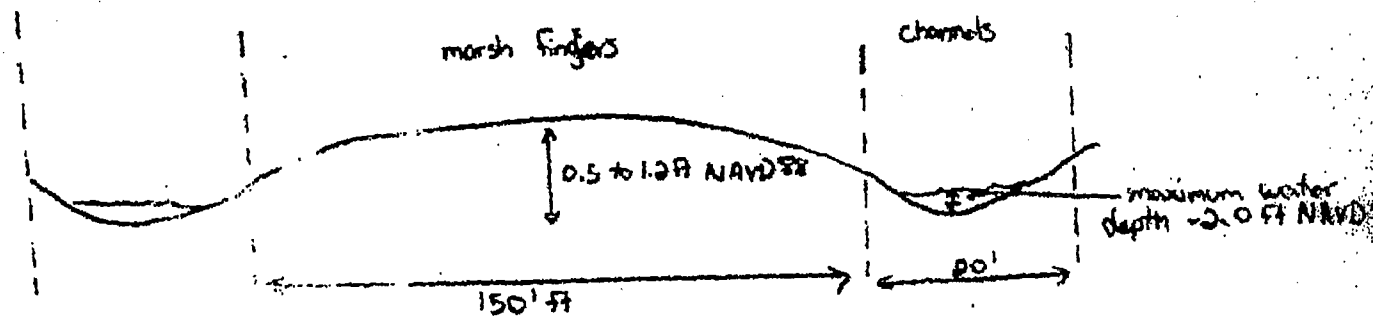
SWG-2007-1865

PERMITTED PLANS

SWG.2007.1865

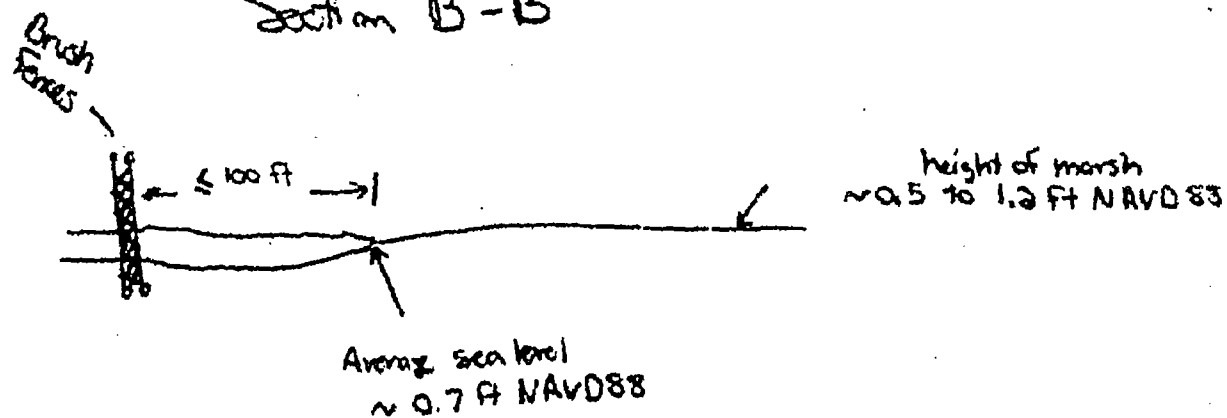
Mitigation Plan





N.T.S

Section B-B



PERMITTED PLANS

Permit Number 19284(03)
Houston International Terminal
January 2, 2003
Page 5 of 5

SWG-2007-1865

**Houston International Terminal
Permit Number 19284 (03)**

Mitigation Plan

Purpose

This mitigation plan is designed to develop a 9.0-acre wetland, in three Phases, that is protected from the normal flow of the San Jacinto River and the erosion caused by tidal movements and boat traffic. The wetland areas will be protected on three sides by landmasses and on the river side by brush fences. The brush fences will allow normal tidal flow to take place to nurture the wetlands and will also provide a method of controlling the activities of herbivorous species, which could destroy developing wetland vegetation. The wetland area will be accessible from land, thereby making it easier to maintain.

Participants

The participants in the mitigation project will be:

Houston International Terminal (HIT)-owner of the site and holder of the permit

Dredging Contractor (DC)- the dredging contractor for HIT

Houston International Terminal owns the property and will enter into a contract with the DC to dredge the commercial sand from the property and to deposit the unwanted material into the designated wetland area to be developed as a wetland. Houston International Terminal will be solely responsible for the grading of material to suitable wetland elevations and the planting of target species. Additionally, all wetland vegetation and associated planting cost will be assumed by HIT.

Site

The property is located on the southwest side of the San Jacinto River, just north of Interstate Highway 10 (I-10) and contains approximately 200 acres, mostly under water. The proposed wetland area is shown on the attached drawing and is approximately 9.0 acres (1000 feet by 400 feet) in size. The wetland site is accessible from land and State right of way along I-10.

Currently, the wetland area has been fill above marsh creation elevations and needs to be graded to create the 9.0-acre wetland.

Wetland Development and Timelines

The entire project when constructed will total 9.0 acres. The mitigation will be separated into three phases. Phase I will include the eastern most 300-foot-long by 400-foot-wide section. Phase II will include the central 300-foot-long by 400-foot-wide section. Phase III will include the western most 400-foot-long by 400-foot-wide section.

The construction of each phase will include the grading of material to a suitable elevation for the target vegetation, the excavation of the intertidal channels, the planting of the target vegetation, and initial survival monitoring of the target vegetation.

Upon six months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase I of the mitigation. Upon 12 months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase II of the mitigation. Upon 18 months from the start of construction within jurisdictional areas, the applicant must begin construction on Phase III of the mitigation. All Phases of the mitigation (I, II, and III) must be completed with construction and planted within 24 months from the start of construction within jurisdictional areas.

Upon the occurrence that the applicant cannot find a dredging contractor who begins work in jurisdictional areas within 18 months, from the date of the re-authorization, the permittee must begin the mitigation time line (as described above) and proceed with the construction of the mitigation site. The day, 18 months from the date of the re-authorization, will be the "start of construction within jurisdictional areas" date for the purpose of the starting the mitigation timeline. If the permittee fails to begin final construction of the mitigation area within 18 months, the permittee will be in violation of the permit and the permit may be suspended and may be turned over to the Compliance Section to be resolved.

Planting and Maintenance

Overall, the 9.0-acre mitigation site will be comprised of 150-foot-wide by 300-foot-long fingers planted with vegetation and the remaining 100-foot-long by 1000-foot-wide section. The elevation of the wetland areas will be between +0.5 and +1.2 feet NAVD 88. The fingers will be separated by 20-foot-wide by 300-foot-long intertidal channels that will be excavated. The channels will have a maximum bottom depth of -2.0 NAVD 88 that then slope up to the +0.5 feet NAVD 88 marsh elevation. The target species will be California bulrush (*Scirpus californicus*), salt marsh bulrush (*Scirpus robustus*), narrow-leaved cattail (*Typha angustifolia*), and bull-tongue (*Sagittaria lancifolia*).

The four species will be planted and planting should be done on 6-foot centers as single species clumps each measuring 30 feet by 30 feet. Three-foot centers will be planted along the shorelines. After planting, the area will be monitored annually and a report containing information on the current status of the mitigation project, percent survival of the planted wetland vegetation, percent aerial coverage of the wetland vegetation, and any problems encountered will be submitted to the Corps' Compliance Section for review. The report will contain factual information, as well as photographic illustrations of the mitigation area. As the mitigation phases are constructed, solutions may include, but are not limited to, adjustment of the elevations within the mitigation area, additional control of herbivorous species, additional erosion control, etc... Annual reports will continue to be submitted for five years after planting Phase III of the mitigation area.

The mitigation area will be enclosed with plastic construction fencing nailed into wooden posts. If a brush fence is required to reduce wave erosion, the brush will be placed between two closely spaced rows of construction fencing. The fencing will also be installed in the uplands to reduce terrestrial herbivores. The fence will be removed when the minimum success criteria is met.

Success Criteria and Monitoring Reports

1. A transplant survival survey of the planted mitigation area must be performed within 60 calendar days following the initial planting effort for each phase. If at least 50% survival of transplants is not achieved within 60 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for re-planting targeted species is not suitable when replanting would be required, the Corps Galveston District (Corps) must approve a re-planting schedule.
2. Written reports detailing plant survival must be submitted to the Corps within 30 calendar days of completing the initial survival survey and any subsequent replanting effort.
3. If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications. If after two years from the initial planting effort (or subsequent planting efforts) the site does not have at least 50% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications.
4. If after five years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of targeted vegetation, the applicant must submit a supplemental mitigation plant to the Corps' Compliance Section for approval to achieve 70% aerial coverage of target vegetation.

5. In addition to the initial survey report, progress reports will be submitted to the Corps Galveston District at 6 months, 1 year, 2 year, 3-year, 4-year, and 5-year intervals following the initial transplanting effort or subsequent replanting efforts. Photos of the mitigation site should be included.

6. At no time will invasive, non-native species be allowed. If invasive, non-native species exceed 5% aerial coverage within the mitigation site, the applicant will take measures to control and eradicate the species.

EXHIBIT B-5

EXHIBIT B-5



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

SEP 27 1996

FILE COPY

Evaluation Section

SUBJECT: 19284(02)

Houston International Terminal
Attn: Captain Jack Roberts
2918 Green Tee Drive
Pearland, Texas 77581

Dear Captain Roberts:

Your request to modify Permit 19284(01) is approved. The modification consists of reducing the amount of required mitigation from creating 15.2 acres of vegetated marsh to 9.0 acres. The original permit authorized the dredging of sand for commercial sale and to provide a barge berthing area. The project is located in the San Jacinto River, along the south bank, north of the Interstate 10 bridge, in Channelview, Harris County, Texas.

The enclosed plans in eight sheets supersede sheets 1 - 6 of the original permit. All conditions of the original permit remain in full force and effect, including the expiration date of the permit which is December 31, 1998.

FOR THE DISTRICT ENGINEER:

Robert W. Heinly
Robert W. Heinly
Leader, South Evaluation Unit
SEP 27 1996
BL

Enclosure

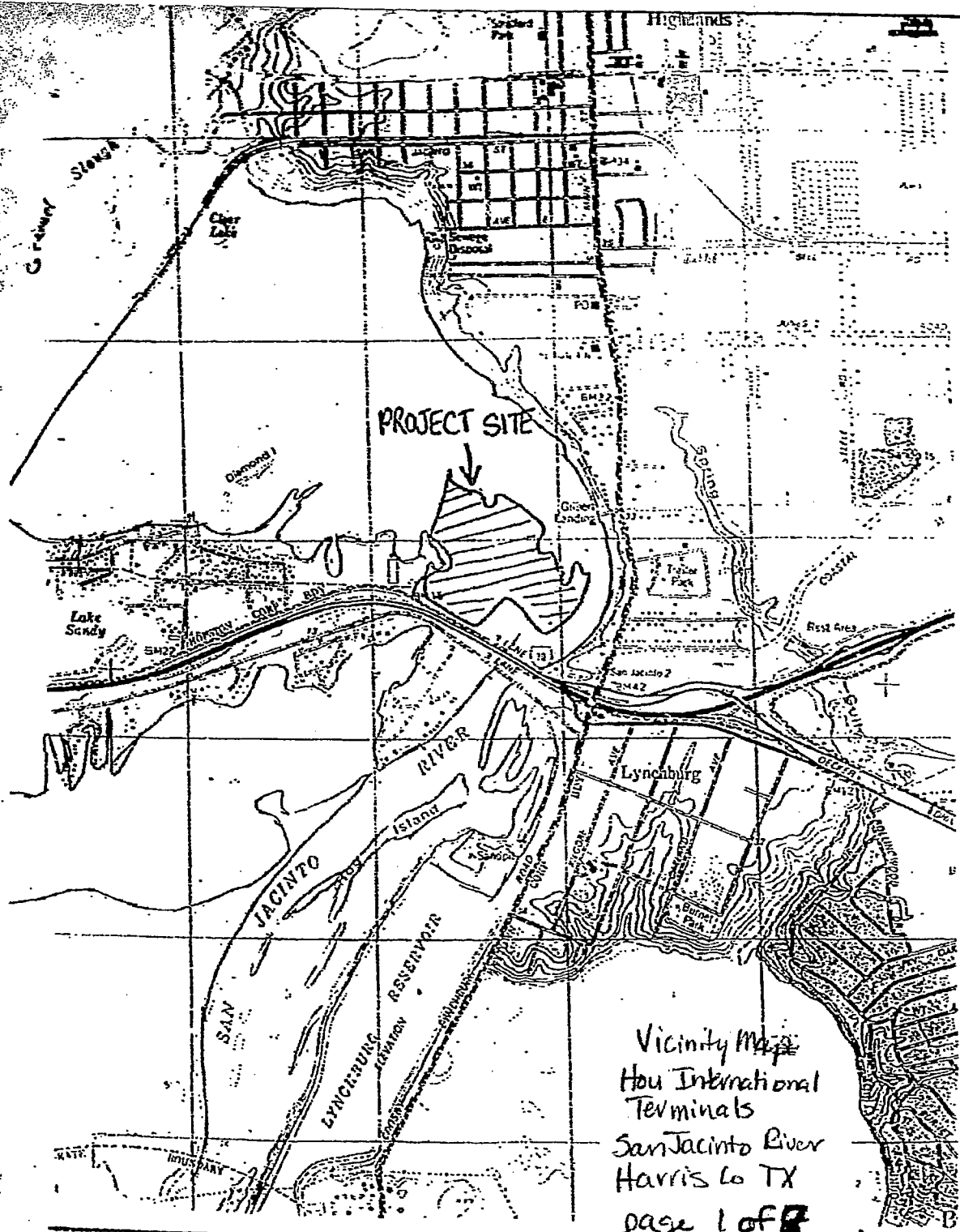
Copies Furnished:

Eighth Coast Guard District, New Orleans, LA

NOAA/NOS, Coast & Geodetic Survey, Silver Spring, MD

Texas General Land Office, Austin, TX

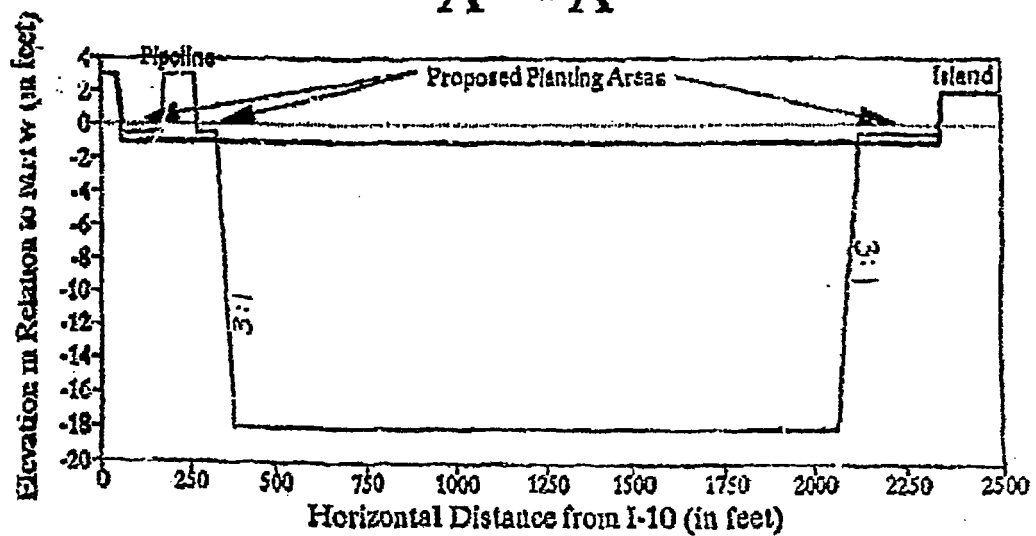
Texas General Land Office, La Porte, TX



Vicinity Map
Houston International
Terminals
San Jacinto River
Harris Co TX
page 1 of 8

19284(02)

Cross Section of Dredged Area A --- A



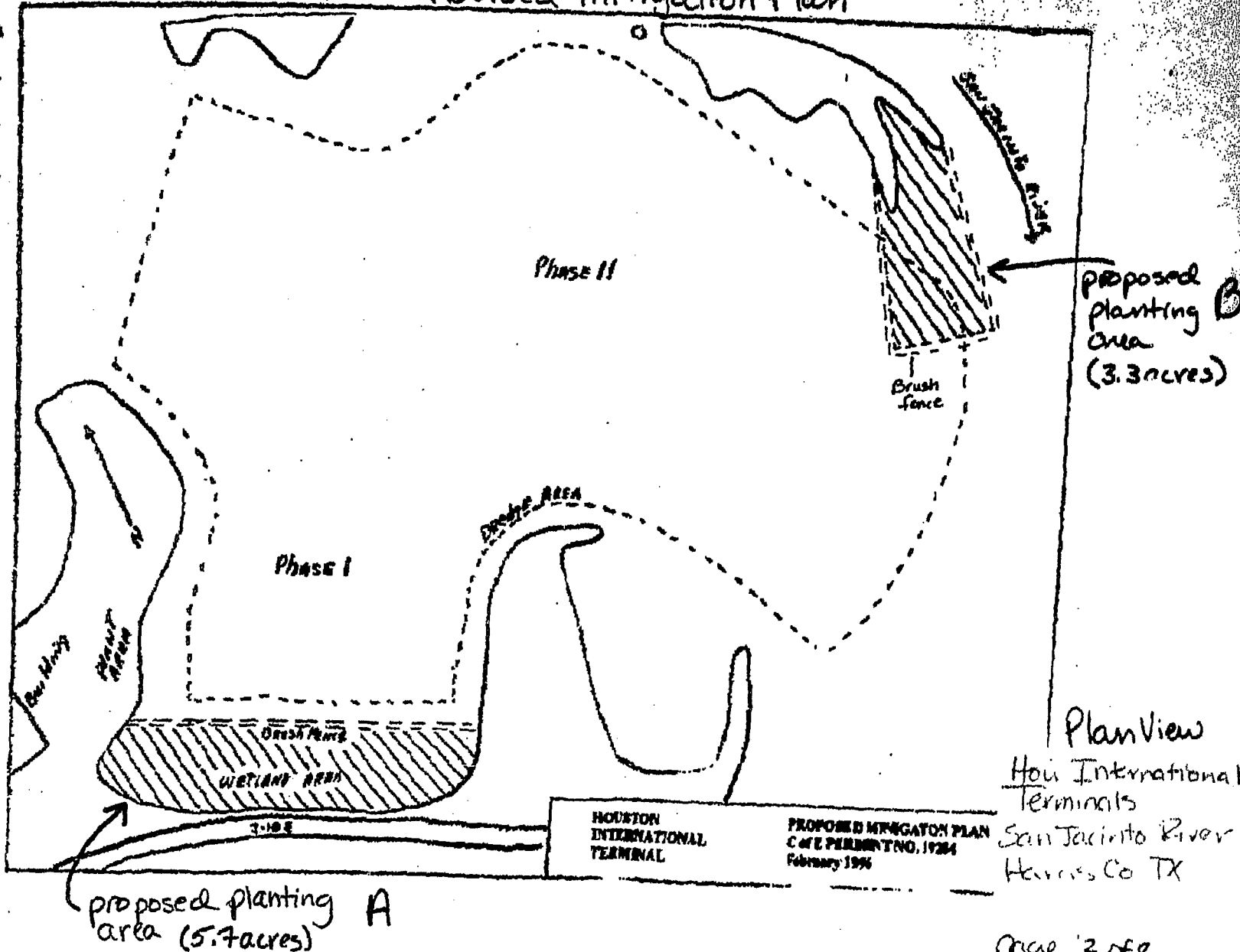
— Proposed Contour — Existing Contour

Cross-section A --- A of proposed mitigation

#19284(01)
HOUSTON INTERNATIONAL
TERMINALS
PG. 2 OF 8

19284(02)

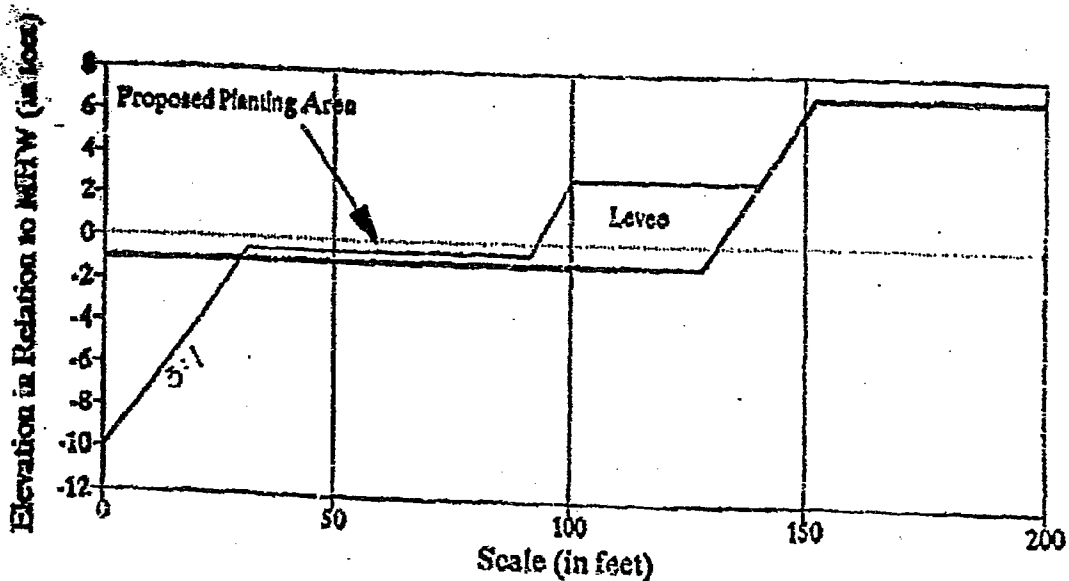
Revised Mitigation Plan



HOUSTON
INTERNATIONAL
TERMINAL

PROPOSED MITIGATION PLAN
C of E PERMIT NO. 19284
February 1996

Cross Section of Planting Area A



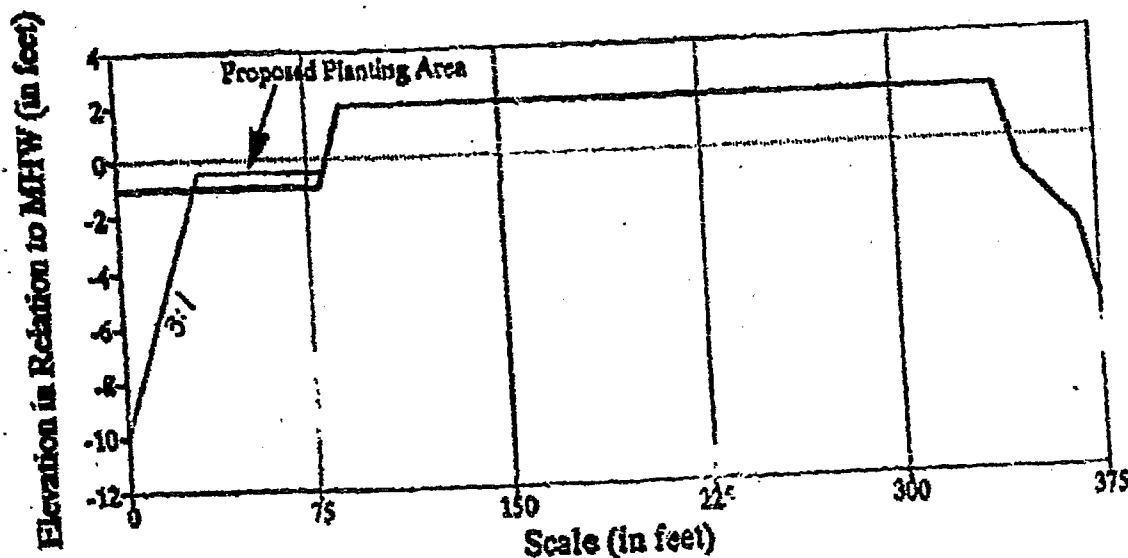
SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross Section- Revised Mitigation

#19284(4)
HOUSTON INTERNATIONAL
TERMINALS
San Jacinto River
Harris Co TX
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Cross Section of Planting Area B



SLOPES = 3:1

— Proposed Contour — Existing Contour

Cross-section B --- B of proposed mitigation

#19284
HOUSTON INTERNATIONAL
TERMINALS

PG. 8 OF 8

19284(02)

PROPOSED ADDENDUM TO MITIGATION PLAN

CORPS OF ENGINEERS, GALVESTON DISTRICT
PERMIT NO. 19284

PERMIT HOLDER: HOUSTON INTERNATIONAL TERMINAL

PURPOSE

The purpose of this addendum to the original mitigation plan is to develop a wetland area that is protected from the normal flow of the San Jacinto River and the erosion caused by tidal movements and boat traffic. The wetland area will be protected on three sides by land masses and on the river side by brush fences. The brush fences will allow the normal tidal flows to take place to mature the wetlands and will also provide a method of controlling the activities of marine species which could destroy developing wetland vegetation. The wetland area will be accessible from land, thereby making it easier to maintain and to use as a teaching and demonstration area.

PARTICIPANTS

The participants in the project will be:

Houston International Terminal ("HIT") - owner of the site and holder of the permit

Dredging Contractor ("DC") - dredging contractor for HIT

Galveston Bay Foundation ("GBF") - environmental organization dedicated to protecting and restoring wetlands of the Galveston Bay System.

Houston International Terminal owns the property and will enter into a contract with the DC to dredge the commercial sand from the property and to deposit the non-commercial fill material into the area to be developed as a wetland. In a cooperative effort, HIT, DC and GBF will design the wetland area and construct brush fences to define the wetland area. The DC will discharge the non-commercial discharge into the area to a elevation suitable for the GBF to plant wetland vegetation. HIT will grant a conservation easement to GBF for use and maintenance of the wetland area and will assure that all applicable permits for the dredging and production operations are maintained.

SITE

The property is located on the west side of the San Jacinto River, just north of Interstate-10 and contains approximately 500 acres, mostly under water. The proposed wetland site is shown on the attached drawing and contains approximately 5.7 acres (1,000 ft. X 250 ft.). The wetland site is accessible from land and State right-of-way along I-10.

Mitigation Plan
Houston International
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19284(02)

DREDGING AND WETLAND DEVELOPMENT

Dredging for the project will begin in the area shown as Phase I on the drawing. The dredge will remove material from underwater in accordance with the permit. The dredged material will be pumped ashore where the commercial sand will be extracted and the non-commercial materials and water will be discharged into the wetland development area. A discharge pipe line will be used to control the depositing of the material. Brush fences will be constructed along the unprotected side of the area to encourage settlement of the discharge materials and to control access to the wetlands by marine species. As the area fills, additional brush fences will be constructed to expand the wetland area to the largest size possible, consistent with the amount of fill material available and the size of the wetland which will be manageable by GBF.

- When dredging is completed in the Phase I area, dredging will begin in the Phase II areas. The dredging area will be consistent with the original permit area.

PLANTING AND MAINTENANCE

The wetland area will be planted and maintained by the GBF. It is planned that the area will serve not only as an emerging wetland, but provide easily accessible educational benefits for GBF groups. The area will also be utilized as a nursery for the promigation of wetland agriculture to be used to develop other wetland projects.

The wetland will be planted with sprigs of smooth cordgrass, *Spartina Alterniflora*, on a maximum of three (3) foot centers.

Planting will begin when a sufficient area of wetland has been constructed to support the effort.

CONTINGENCIES

Test data indicates that there is sufficient commercially acceptable sand for the project and that there is a sufficient amount of non-commercial material within the dredge material to complete the minimum wetland area as shown. However, the exact amount of material cannot be accurately determined by testing. Construction of the wetland area will be completed as the dredging progresses, beginning with the area on the west side of the designated area. This will assure that a wetland area is developed which is accessible. The wetland area will be constructed as large as possible, depending upon the amount of non-commercial material. If the deposit becomes uneconomical to commercially produce, the material be found unsuitable for commercial use, the wetland fill be found unsuitable for use, or the quantity of wetland fill is depleted, construction of further wetland will cease and brush fencing will be constructed to protect the existing area.

Mitigation Plan
Hou International
Terminals
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19284(02)

Mitigation Plan (continued)

The mitigation will be performed in phases. The first phase would consist of planting 3.3 acres of transplants and would begin between March 15 and May 31 of the first year of dredging operations. The second phase would consist of planting 3.3 acres of transplants concurrently with dredging operations over the 7 to 10 year life of the project. The commercial demand for sand will dictate the rate at which dredging occurs. The rate of planting cannot be guaranteed for the second phase. The March 15-May 31 window will be adhered to whenever planting occurs.

To avoid damage to the marsh where the transplants will be acquired, no more than one six-inch plug of source material per one square yard will be obtained. In addition, the applicant will, to the greatest extent practicable, access the source material in the borrow marsh in a manner that does not destroy or lower the ground elevation of the marsh. Although the applicant would be willing to replant any areas with less than 70 percent survival through natural mortality after a one year period, this would not include mortality as a result of oil or chemical spills, boat traffic, hurricanes, or similar events beyond the applicant's control.

In addition, the proposed mitigation will be dependent upon whether or not there is sufficient sand to be commercially feasible. In this regard, once the permit is issued, minimal pilot dredging operation will be conducted in order to make this determination. If it is determined that there is insufficient sand to proceed, no additional dredging will occur and the applicant will not be bound to initiate or complete the mitigation.

Mitigation Plan
Hou International
Terminals
San Jacinto River
Harris Co TX
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EVALUATION OF SECTION 404(b)(1) GUIDELINES - SHORT FORM

APPLICANT: Houston International Terminal APPLICATION NUMBER: 19284(02)

1. Review of Compliance (230.10(a)-(d)). A review of the permit application indicates that:

a. The discharge represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative);

YES X NO*

b. The activity does not appear to:

1) Violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA;

2) Jeopardize the existence of Federally listed endangered or threatened species or their habitat; and

3) Violate requirements of any Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies);

YES X NO*

c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see values, section 2);

YES X NO*

d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (if no, see section 5).

YES X NO*

2. Technical Evaluation Factors (Subparts C-F) (Where a significant category is checked, add explanation below.)

NOT
N/A SIGNIFICANT SIGNIFICANT*

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)

1) Substrate impacts	—	X	—
2) Suspended particulates/turbidity impacts	—	X	—
3) Water column impacts	—	X	—
4) Alteration of current patterns and water circulation	—	X	—
5) Alteration of normal water fluctuations/hydroperiod	X	—	—
6) Alteration of salinity gradients	X	—	—

b. Biological Characteristics of the Aquatic Ecosystem (Subpart D)

1) Effect on threatened/endangered species and their habitat	X	—	—
2) Effect on the aquatic food web	—	X	—
3) Effect on other wildlife (mammals, birds, reptiles and amphibians)	—	X	—

c. Special Aquatic Sites (Subpart E)

1) Sanctuaries and refuges	X	—	—
2) Wetlands	X	—	—
3) Mud flats	X	—	—
4) Vegetated shallows	X	—	—
5) Coral reefs	X	—	—
6) Riffle and pool complexes	X	—	—

d. Human Use Characteristics (Subpart F)

1) Effects on municipal and private water supplies	X	—	—
2) Recreational and Commercial fisheries impacts	—	X	—
3) Effects on water-related recreation	X	—	—
4) Aesthetic impacts	—	X	—
5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	X	—	—

3. Evaluation of Dredged or Fill Material (Subpart G)**

a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.)

- | | |
|--|----------|
| 1) Physical characteristics | <u>X</u> |
| 2) Hydrography in relation to known or anticipated sources of contaminants | — |
| 3) Results from previous testing of the material or similar material in the vicinity of the project | <u>X</u> |
| 4) Known, significant sources of persistent pesticides from land runoff or percolation | — |
| 5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances | — |
| 6) Other public records of significant introduction of contaminants from industries, municipalities or other sources | — |
| 7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities | — |
| 8) Other sources (specify) | <u>X</u> |

List appropriate references.

The Texas Natural Resources Conservation Commission certified the project on 23 August 1996.

b. An evaluation of the appropriate information in 3a above indicates that there is reason to believe the proposed dredge or fill material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites and not likely to degrade the disposal sites, or the material meets the testing exclusion criteria.

YES X NO

4. Disposal Site Delineation (230.11(f))

a. The following factors, as appropriate, have been considered in evaluating the disposal site:

- | | |
|---|-----------|
| 1) Depth of water at disposal site | <u>X</u> |
| 2) Current velocity, direction, and variability at disposal site | <u> </u> |
| 3) Degree of turbulence | <u>X</u> |
| 4) Water column stratification | <u> </u> |
| 5) Discharge vessel speed and direction | <u> </u> |
| 6) Rate of discharge | <u> </u> |
| 7) Dredged material characteristics (constituents, amount, and type of material, settling velocities) | <u> </u> |
| 8) Number of discharges per unit of time | <u> </u> |
| 9) Other factors affecting rates and patterns of mixing (specify) | <u> </u> |

List appropriate references.

b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES X NO

5. Actions to Minimize Adverse Effects (Subpart H)

All appropriate and practicable steps have been taken, through application of recommendations of 230.70-230.77 to ensure minimal adverse effects of the proposed discharge. List actions taken.

YES X NO

- a. Using appropriate equipment or machinery in activities related to the discharge of fill material.
- b. Siltation control device will be used to limit migration of sedimentation.
- c. 9.0 acres of vegetated wetlands will be created to compensate for dredging impacts to 9.25 acres of shallow water habitat.

6. **Factual Determination (230.11)** A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge as related to:

- | | |
|---|---------------------|
| a. Physical substrate at the disposal site
(review sections 2a, 3, 4, and 5 above) | YES <u>X</u> NO*___ |
| b. Water circulation, fluctuation and salinity
(review sections 2a, 3, 4, and 5) | YES <u>X</u> NO*___ |
| c. Suspended particulates/turbidity
(review sections 2a, 3, 4, and 5) | YES <u>X</u> NO*___ |
| d. Contaminant availability
(review sections 2a, 3, and 4) | YES <u>X</u> NO*___ |
| e. Aquatic ecosystem structure and function
(review sections 2b and c, 3, and 5) | YES <u>X</u> NO*___ |
| f. Disposal site
(review sections 2, 4, and 5) | YES <u>X</u> NO*___ |
| g. Cumulative impact on the aquatic ecosystem | YES <u>X</u> NO*___ |
| h. Secondary impacts on the aquatic ecosystem | YES <u>X</u> NO*___ |

7. **Evaluation Responsibility**

a. This evaluation was prepared by: Sharon Manzella Tirpak *SMT*

Position: Regulatory Specialist

8. Findings

a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines. X

b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) Guidelines with the inclusion of the following conditions:

c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) Guidelines for the following reason(s):

- 1) There is a less damaging practicable alternative
- 2) The proposed discharge will result in significant degradation of the aquatic ecosystem
- 3) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem

Russel
Heinly
Nanninga

20 Sep 96
(date)

Marcos De La Rosa
Marcos De La Rosa, P.E.
Chief, Regulatory Branch

DATE: 12 Sept 1996

Permit: 19284(02)

SUMMARY: Talked with John Moran about who was going to do the second mitigation site (the 3.3 acres on the northern portion of the project site). He said that Galveston Bay Foundation was under agreement to plant the first site, the 5.7 acres in the protected cove. This was also going to be designated as a conservation easement. They had not worked out any agreement on GBF doing the planting on the 3.3 acres, however, they plan to do that when the time arises. Also, the paragraph on page 6 of the plans talks about a contingency plan as to if the sand is not of economic value, then dredging would cease and no further mitigation would be completed. The applicants do understand that mitigation has to be completed concurrently with the dredging and will be completed in proportion to the amount of dredging completed.

PROJECT MANAGER: Sharon Manzella Tirpak SMT

EXHIBIT B-6

EXHIBIT B-6



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON TX 77553-1229

MAY 18 2009

Policy Analysis Section

SUBJECT: Permit: SWG-2007-01865, Captain Jack Roberts; Suspension

Captain Jack Roberts
2435 Broadway Street
Pearland, Texas 77581-6407

Dear Capt. Roberts:

This is to notify you that Department of the Army (DA) permit SWG-2007-01865 has been suspended. DA permit SWG-2007-01865 was authorized December 27, 2007, to amend DA permit 19284(03) for an extension of time and to modify the mitigation plan to incorporate specific plans and construction criteria to increase success. The project is located in the San Jacinto River, along the south bank, north of the Interstate Highway 10 Bridge, in Channelview, Harris County, Texas.

The original DA permit 19284 was issued on May 11, 1992 and authorized the dredging of sand for commercial sale and to create a barge berthing area, and required the creation of 15.2 acres of wetlands as mitigation for the project impacts. Amendment (01) extended the time for completion of that work until December 31, 1999. Amendment (02) reduced the required mitigation to 9.0 acres of created wetlands and modified the location of the mitigation site. Amendment (03) also modified the mitigation plan.

In a letter dated March 31, 2009 (attached), Texas Commission on Environmental Quality (TCEQ) informed us they have suspended 401 Water Quality Certification for DA permit SWG-2007-01865 due to the purported water quality issues involving the contaminant dioxin.

Pursuant to 33 CFR 325.7, I may reevaluate the circumstances and conditions of a permit, at the request of a third party and initiate action to suspend or revoke a permit as may be made necessary by considerations of the public interest. Among the factors I must consider in a determination to suspend, is whether any significant objections to the authorized activity which were not earlier considered have occurred. The suspension of TCEQ 401 Water Quality Certification not only constitutes a significant objection, but ultimately renders SWG-2007-01865 void as a required condition of the permit. As required by 33 CFR 325.7(c), I am ordering you to stop those activities previously authorized by the permit to allow TCEQ the time necessary to assess any water quality issues. Following this suspension, a decision will be made to reinstate, modify, or revoke the permit.

Within 10 days of receipt of this notice of the suspension, you may request a meeting with me, and/or a public hearing to present information in this matter. If a hearing is requested, the procedures prescribed in 33 CFR Part 327 will be followed. After the completion of the meeting or hearing, or within a reasonable period of time if no hearing or meeting is requested, I will take action to reinstate, modify, or revoke the permit.

If you have any questions regarding this matter, please contact Mr. Sam Watson at the letterhead address or by telephone at 409-766-3946.

Sincerely,

David C. Weston
Colonel, Corps of Engineers
District Commander

(Copy Furnished -- See Page 3 and 4)

Copies Furnished:

Miguel I. Flores
Director, Water Quality Protection Division
Environmental Protection Agency (6WQ)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Mark R. Vickery
Executive Director
MC109
P.O. Box 13087
Austin, Texas 78711-3087

Stephen Tzhone
Remedial Project Manager (RPM)
EPA - Region 6 [6SF-RA]
1445 Ross Avenue
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Bob Werner
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Texas Commission on Environmental Quality
Water Quality Standards Team
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Carter Smith
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744-3291

Pat Radloff
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William (Jamie) Schubert
Texas Parks & Wildlife Department
Coastal Conservation Branch
Resource Protection Division
1502 Pine Drive (FM 517)
Dickinson, Texas 77539

APR 06 2009

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 31, 2009

Colonel David C. Weston
Galveston District Commander
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Dear Colonel Weston:

I am writing in response to your January 8, 2009 letter to the Texas Commission on Environmental Quality (TCEQ) regarding U.S. Army Corps of Engineers' (Corps) permit number SWG-2007-01865 authorizing sand mining on the west side of the San Jacinto River north of Interstate Highway 10. The TCEQ last certified this Section 401 permit during the second permit amendment in 1996. Subsequently, the Corps issued the fourth amendment on December 27, 2007, however there was no coordination with the respective state agencies.

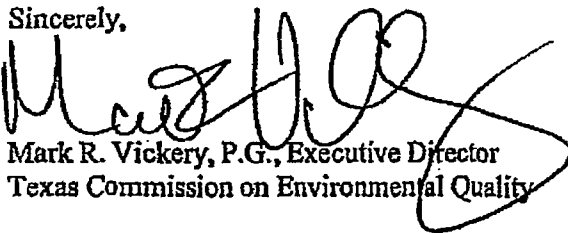
In TCEQ's October 29, 2008 response to your original August 11, 2008 letter on this subject, the agency requested that the Corps suspend or revoke permit SWG-2007-01865. Suspension/revocation of this permit was requested because of the potential for violations of Texas Surface Water Quality Standards resulting from the resuspension of dioxin during the sand mining authorized by this permit. The TCEQ anticipated this request would qualify as a third party request under 33 Code of Federal Regulations (CFR) 325.7, based upon a change of circumstances related to the authorized activity. Specifically, these changes in circumstances include the listing of the San Jacinto River Waste Pits on the United States Environmental Protection Agency's National Priority List and data (Attachment B) developed by the TCEQ's Total Maximum Daily Load program regarding dioxin contamination in this area.

The TCEQ is very concerned about the continued authorization of activities authorized by SWG-2007-01865 and reiterates the request for the Corps to suspend or revoke the permit. Therefore, the TCEQ suspends the 401 certification of permit SWG-2007-01865 until 30 days after TCEQ receives notice of the Corps' decision under the 33 CFR 325.7 process. Please notify us of your decision on the permit.

Colonel David C. Weston
Page 2
March 31, 2009

The TCEQ remains committed to the partnership of combining the responsibilities of both agencies into a single permit decision. I have included a presentation (Attachment A) and data developed by the TCEQ's Total Maximum Daily Load program regarding dioxin contamination in this area. We would be glad to provide additional information on specific dioxin congeners if needed. Should you have any questions regarding this or any other information, please contact L'Oreal Stepney of the TCEQ's Water Quality Division at (512) 239-1321.

Sincerely,

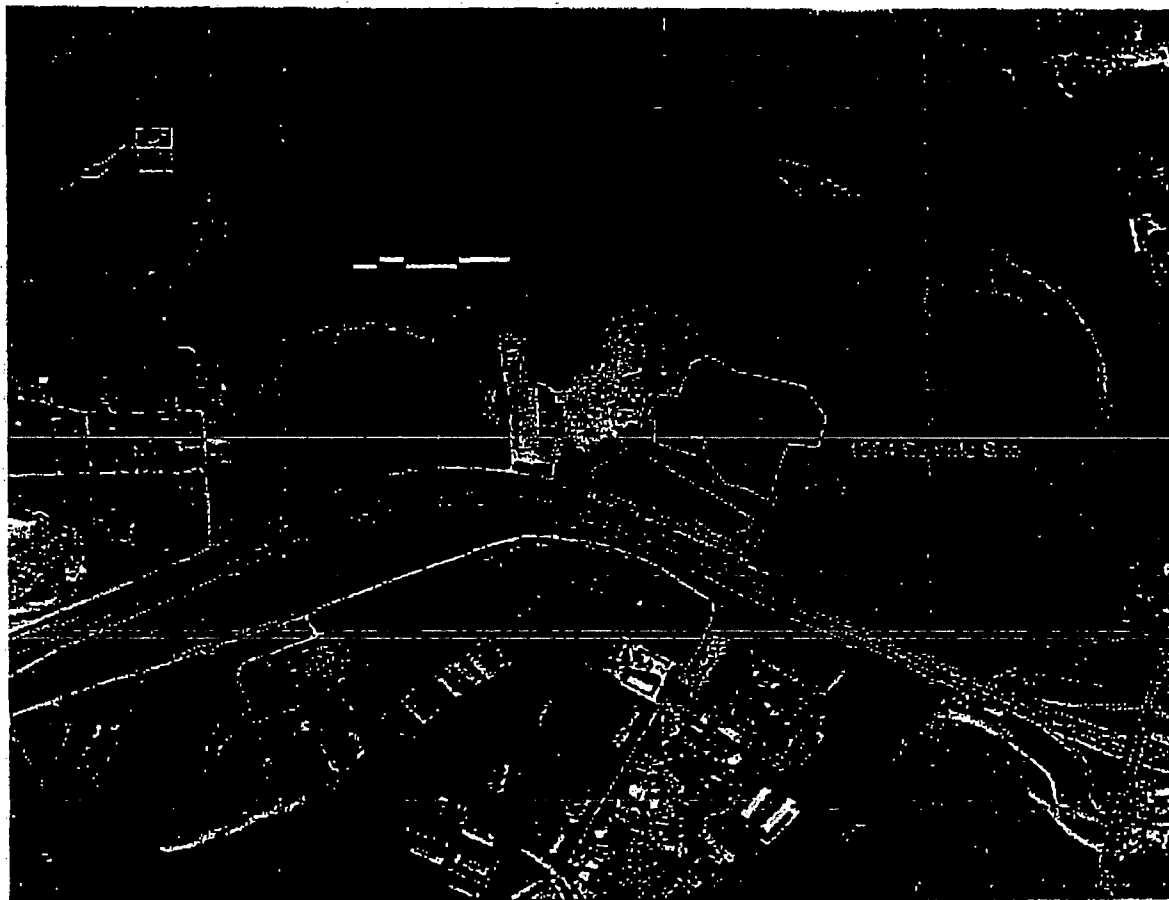


Mark R. Vickery, P.G., Executive Director
Texas Commission on Environmental Quality

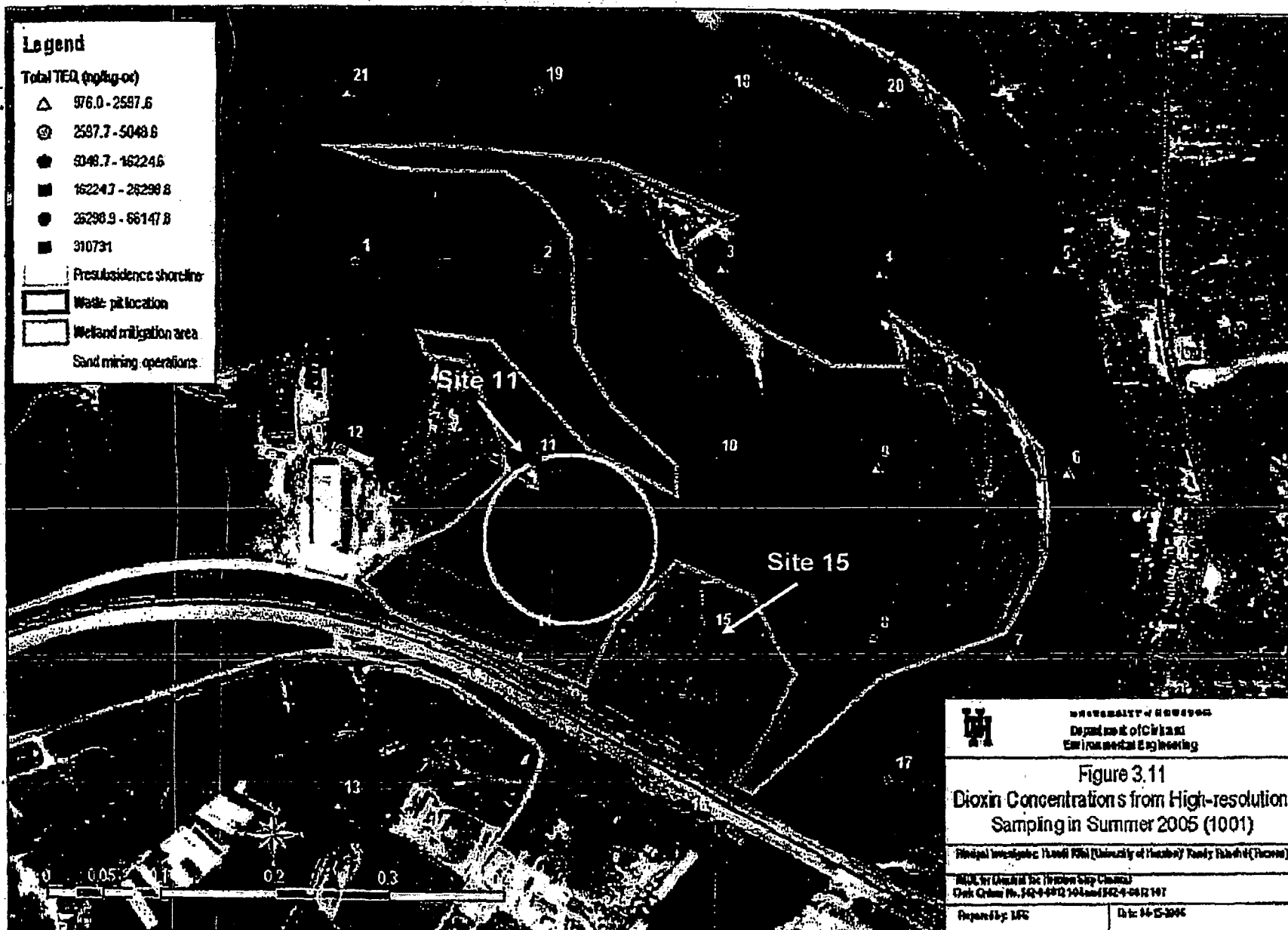
Enclosures

cc: Carter Smith, Executive Director, Texas Parks and Wildlife, 4200 Smith School Road, Austin, Texas 78744-3291
Sharon Parrish, U. S. Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733
Sam Watson, U.S. Army Corps of Engineers, P.O. Box 1229, Galveston, Texas 77553-1229

Sand Mining in the Waste Pit Area



TFWD letter

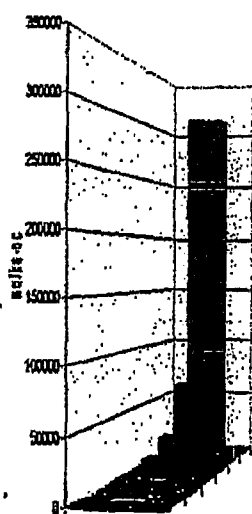


Legend

Total TEQ (pg/g-dry)


- △ 296.0 - 2997.8
- ⊙ 2997.7 - 5048.8
- ⊗ 5048.7 - 16224.6
- 16224.7 - 25298.8
- 25298.9 - 66147.8
- 310731

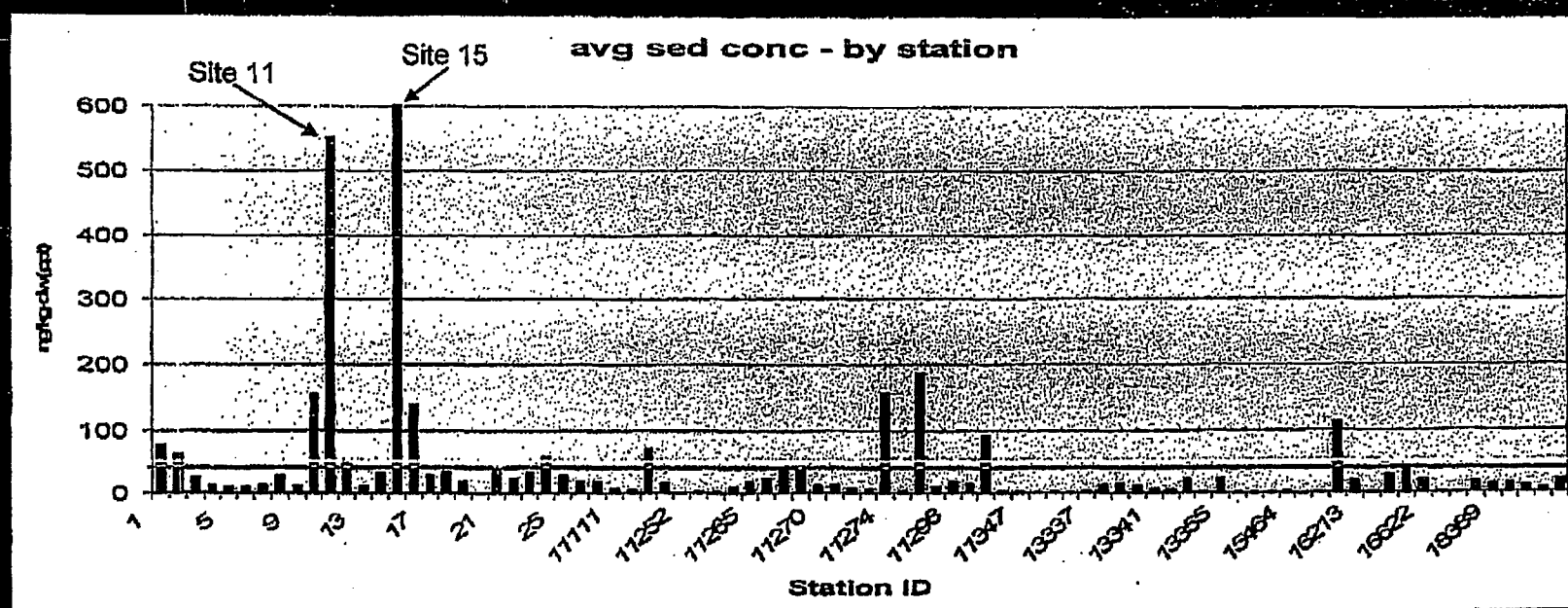
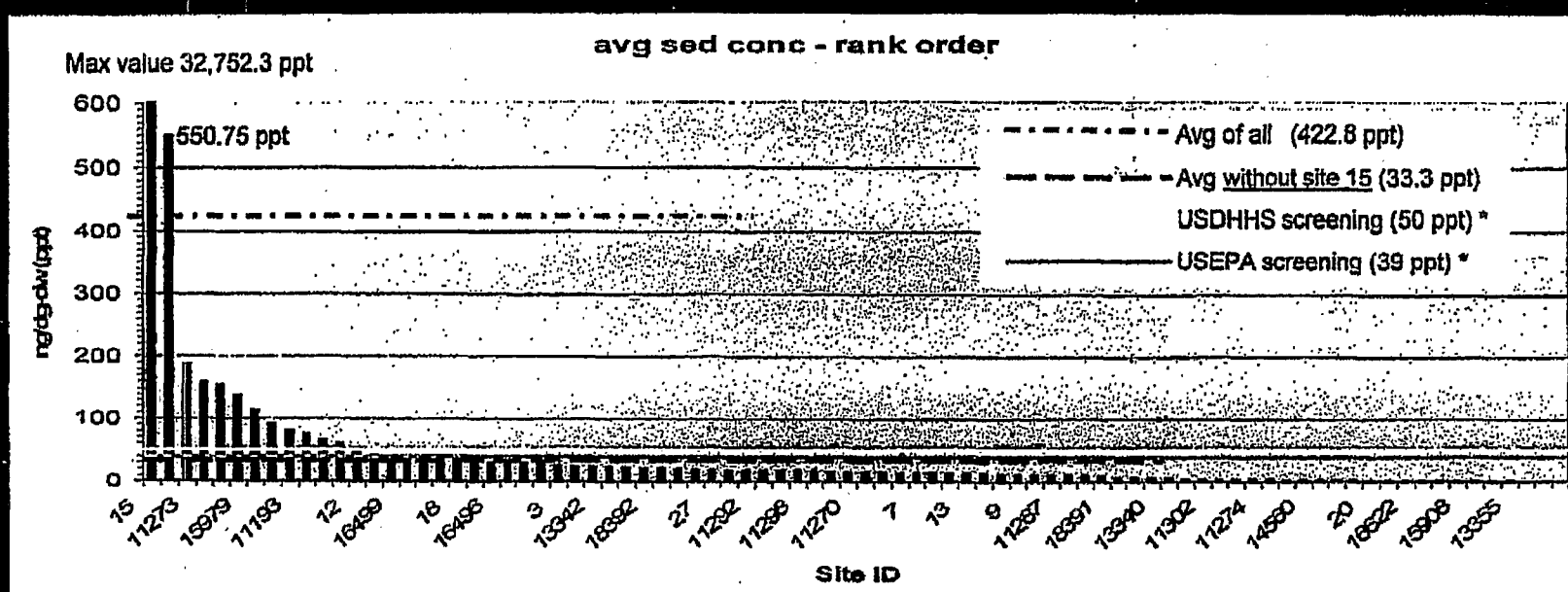
- Presettlement shoreline
- Waste pile location
- Wetland mitigation area
- Sand mining operations

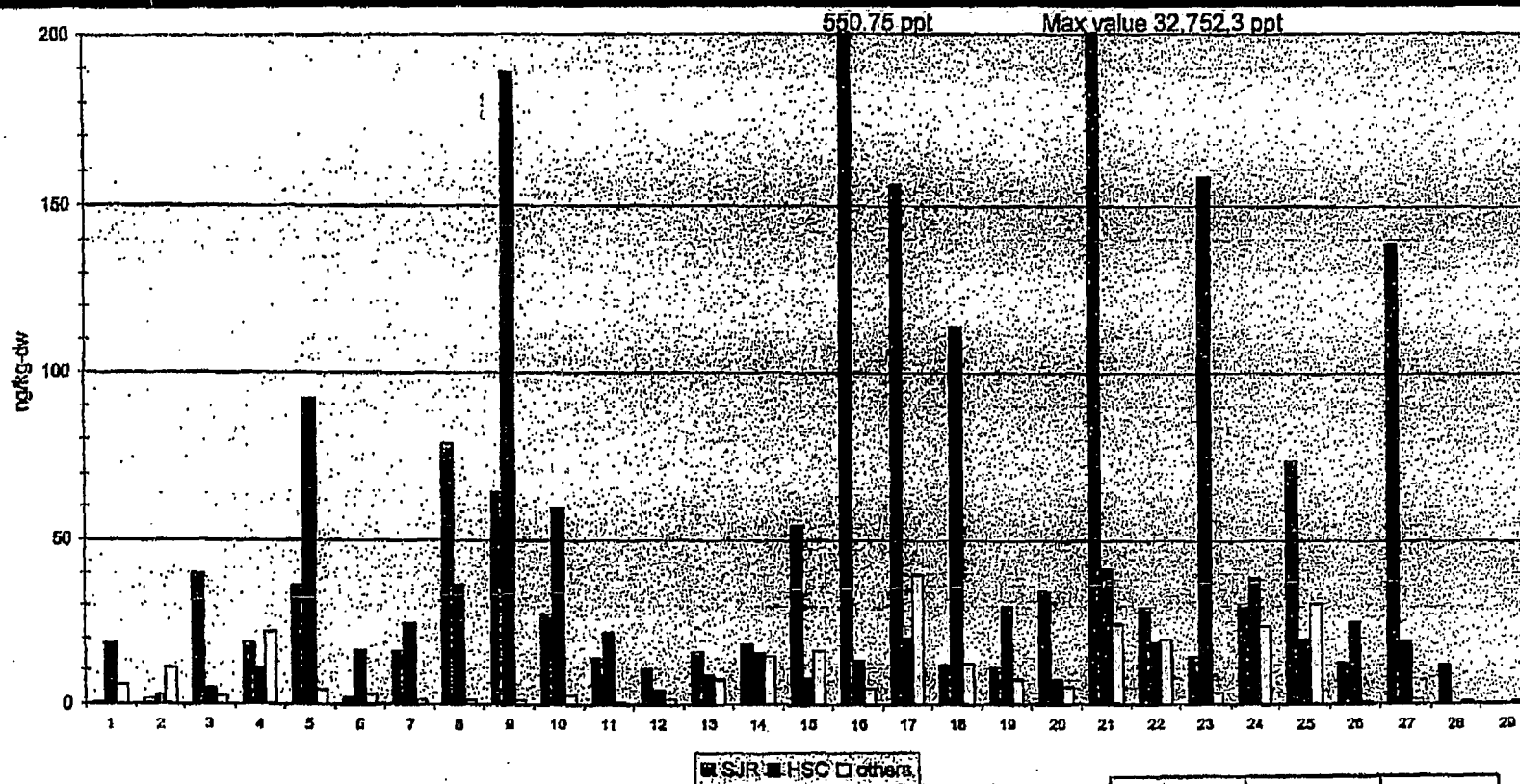


Site 11

Site 15

 UNIVERSITY OF MARYLAND Department of Geology Environmental Engineering	
Figure 3.11 Dioxin Concentrations from High-resolution Sampling in Summer 2005 (1001)	
Principal Investigator: Frank R. R. (University of Maryland's Center for Environmental and Estuarine Science)	
TULLY: University of Maryland's Center for Environmental and Estuarine Science CEA: Office No. 500-04312104 and 500-04312107	
Sponsoring: USF	Date: 4-18-2016





Max =	32752.30
90% <	77.37
85% <	48.57
81% <	39.16
75% <	30.62
50% <	15.87
25% <	5.18

USDHHS screening (50 ppt) ~
USEPA screening (39 ppt) ~

~ From TPWD presentation slide

Sediment	averages	max
in	ppt	ppt
SJR	1,222.3	32,752.3
pit area	1,486.0	32,752.3
HSC	37.9	188.9
HSC hot area	45.6	188.9
others	9.3	39.8

- Sites 15 and 11 are the two highest sediment concentrations measured in the HSC area. Sediment concentrations were 32,752 ng/kg-dw TEQ (site 15) and 551 ng/kg-dw TEQ (site 11). Units ng/kg are equivalent to parts per trillion (ppt). Site 11 is in the sand dredging area.
- Compared to a screening value of 38 ng/kg-dw TEQ, 9 of 17 sites that exceed are in pit and sand dredging area (inside dashed yellow line on slide 3).

(Note: colored contours on slide 3 represent organic carbon normalized values, which differ from the dry weight values represented by dashed yellow line. Individual samples were normalized to individual organic carbon concentrations, dividing dry weight concentrations by %oc. Organic carbon content of HSC sediments is relatively low, averaging about 1%, so "oc-normalized" values tend to be about 100x dry weight values, i.e. $X/0.01 = 100X$, but ratio can vary by sample.)

- Third and fourth highest sites (189 and 158 ppt) are less than half the concentration at site 11. Those sites are in the main channel near Armco intake screens, and in Patrick Bayou (also a Superfund site).
- "1 ppb is the TRRP direct sediment contact value for dioxins, as well as the EPA cleanup value" (from Toxicology staff, 1/23/2009) One ppb equals 1,000 ppt. Site 11 is closer to the concentration at which contact with sediment may become hazardous than any other site except 15.

Attachment B
TCEQ TMDL Data
San Jacinto River Waste Pits

Station	Number of samples in average	TEQ concentration (ng/kg-dw)	Short description	Long description	TCEQ Segment Number	Latitude	Longitude
1	1	78.758	SJR pit site	just north and outside of Cont Term slip	1001	29.800954	-95.066934
2	1	64.512	SJR pit site	just south of 18389	1001	29.800954	-95.065098
3	1	27.653	SJR pit site	N of 10, S of 18	1001	29.800954	-95.062446
4	2	13.708	SJR pit site	main river channel NNE of pit	1001	29.800954	-95.060668
5	1	10.409	SJR pit site	main river channel NE of pit	1001	29.800954	-95.05835
6	1	10.803	SJR pit site	main river channel ENE of pit	1001	29.797711	-95.05835
7	1	14.025	SJR pit site	main river channel E of pit	1001	29.794735	-95.05901
8	1	29.485	SJR pit site	eroded bar E of pit	1001	29.794735	-95.060668
9	1	11.615	SJR pit site	eroded bar NE of pit	1001	29.797711	-95.060668
10	1	155.919	SJR pit site	eroded bar N of pit	1001	29.797711	-95.062446
11	2	550.750	SJR pit site	eroded bar NW of pit, E of Cont Term slip	1001	29.797711	-95.065098
12	1	54.255	SJR pit site	In Continental Terminals barge slip	1001	29.797711	-95.066934
13	1	12.626	SJR pit site	Old River in barge area west of SJR channel	1001	29.791573	-95.066934
14	1	34.354	SJR pit site	In mitigation area N side of IH-10	1001	29.794735	-95.065098
15	2	32752.303	SJR pit site	between 11193 and 18389, in pit	1001	29.794735	-95.062446
16	1	138.858	SJR pit site	slough S of pit, S of IH-10	1001	29.791573	-95.062446
17	1	30.677	SJR pit site	just east of 11193	1001	29.792317	-95.060668
18	1	35.980	SJR pit site	main SJ channel, about 1 km N of pit	1001	29.803744	-95.062446
19	1	18.913	SJR pit site	eroded bar NNW of pit 1 km	1001	29.803744	-95.06468
20	1	1.810	SJR pit site	eroded bar NNE of pit 1 km	1001	29.803744	-95.060668
21	1	40.003	SJR pit site	north of 1	1001	29.803744	-95.066934

EXHIBIT C

EXHIBIT C

10 DEC 1990



18001 — 1-10
CHANNELVIEW, TEXAS

REPLY TO:
2918 GREEN TEE DRIVE
PEARLAND, TEXAS 77581
713 / 485-2464

FAX 485-2464

December 7, 1990

Department of the Army
U. S. Army Corps of Engineers
444 Barracuda Ave.
P.O. Box 1229
Galveston, Texas 77553-1229

Attention: Mr. Dolan Dunn

Re: Removal of Sand on Land
Owned by H.I.T.

Dear Sir:

It was a pleasure to finally meet you on December 5, 1990 and have your Mr. B. Bennett introduce me to the representatives of the various agencies. I really was impressed with the attention given to my presentation and these interviews, every other Wednesday, approach is a great step forward.

During the aforementioned interview it was mutually agreed that probable noting could be accomplished before the first of the year upcoming, however we would like to go ahead and submit the facts and application in order that we can get on line (in line) with your staffs heavy schedule.

In going over our files we would like to reiterate our past record at this location and in order to save time and expense, advise you of past permits, applications, etc. which are:

1. In 1976 we applied and received permit application 11357 after overcoming objection of Texas Antiquities Committees. [See letter marked (B) attached]
2. In 1980 we requested permission to dredge out @ 1,100 cubic yards of sand on our property to facilitate docking barges. This was approved by agencies. [See copy of letter marked (A) from Texas Department of Water Resources attached]
3. In 1984 we received a permit to fill in an area @ 100' x 900' (Permit 32047) alongside item #1.

At this time we are desirous of obtaining a permit to dredge out our East land, dispose of sand as per permit application. This removal will be sizable in comparison with our permit issue in 1980 but feel that no impact on the environment will be the same.

Department of the Army
Mr. Dolan Dunn
Removal of Sand - H.I.T.
December 7, 1990
Page - 2 -

We have gone through our files and enclosed with this letter and application offer a copy of all, to date, permits or letters that we have received in the past which may prove of some assistance in evaluating this project.

- 4.A Harris County (Fill) Permit 32047
- 4.B U. S. Corps Permit 15472
- 4.C Port of Houston Authority 15472
- 4.D Texas Park & Wildlife

In conclusion we would like to point out the following:

Land to be excavated is on private property owned by Houston International Terminal. (State of Texas not involved)

Material excavated by dredging material will be processed through shaker screens to where boxes will be totally removed from the premises with no fall out other than original water.

Enclosed are photographs showing the area/s to be worked over.

There are no water fowl roosts nor have we seen any bird life in this area. Perhaps traffic on I-10 anyway ?

There are no vegetation in this area.

Land is near dry for the most of time (Except for storms and extreme South winds).

The Houston International Terminal has been flooded several times in past years, (not from flood tides but from heavy rains and release of water from Lake Houston) we feel that the displacement of this land would permit the equal amount of cubic yards of water to be displaced into the original track of the San Jacinto River.

GLO (not involved). The area to be worked is not on navigable waters, off San Jacinto River and not enough water to support a vessel.

Sir, upon receipt of this letter with the enclosures (Permit Application, etc.) we would appreciate a call from you or your staff if further information might be required.

Thanking you in advance for your usual prompt attention, remain with

Respects,



Capt. Jack Roberts

JR:hr

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0702-0036
Expires 30 June 1992

Basic reporting burden for the collection of information is estimated to average 8 hours per response for the majority of cases, including the time for reviewing existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act and Section 108 of the Marine, Protection, Research and Sanctuaries Act. These laws require permits authorizing activities in or affecting navigable waters of the United States; the discharge of dredged or fill material into waters of the United States; and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary; however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

1. APPLICATION NUMBER (To be assigned by Corps) 10 DEC 1990 19284	3. NAME, ADDRESS, AND TITLE OF AUTHORIZED AGENT Capt. Jack Roberts 2918 Green Tee Drive Pearland, Texas 77581 Telephone no. during business hours AG (713) 485-0537 (Residence) AG (713) 485-2464 (Office)
2. NAME AND ADDRESS OF APPLICANT Houston International Terminal 18001- 110 East (Highway 73) Channelview, Texas 77530 Telephone no. during business hours AG (713) 485-0537 (Residence) AG (713) 485-2464 (Office)	Statement of Authorization: I hereby designate and authorize _____ to act in my behalf as my agent in the processing of this permit application and to furnish, upon request, supplemental information in support of the application. SIGNATURE OF APPLICANT _____ DATE _____

4. DETAILED DESCRIPTION OF PROPOSED ACTIVITY 4a. ACTIVITY Dredged and/or dig sand from land owned by H.I.T. All dredged material will pass through screens - Boxes of approved design and transported by barge or trucks. No material will be permanently stored on adjoining land or passed back into surrounding waters.

4b. PURPOSE To dispose of sand commercially and to increase fleeting (parking) space for barges owned by owners and/or others.
--

4c. DISCHARGE OF DREDGED OR FILL MATERIAL Same as 4A. above.
--

5. NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC., WHOSE PROPERTY ADJONS THE WATERWAY

None

6. WATERBODY AND LOCATION ON WATERBODY WHERE ACTIVITY EXISTS OR IS PROPOSED

Land is on land owned by H.I.T. is not on any navigable waterbody.
(See diagrams attached)

7. LOCATION ON LAND WHERE ACTIVITY EXISTS OR IS PROPOSED

ADDRESS: 18001 - I10 East (Highway 73)
Channelview, Texas

STREET, ROAD, ROUTE OR OTHER DESCRIPTIVE LOCATION

Harris Texas 77530
COUNTY STATE ZIP CODE

LOCAL GOVERNING BODY WITH JURISDICTION OVERSITE

8. Is any portion of the activity for which authorization is sought now complete? ☐ YES ☒ NO
If answer is "yes" give reasons, month and year the activity was completed. Indicate the existing work on the drawings.

9. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharges or other activities described in this application.

ISSUING AGENCY	TYPE APPROVAL	IDENTIFICATION NO.	DATE OF APPLICATION	DATE OF APPROVAL	DATE OF DENIAL
----------------	---------------	--------------------	---------------------	------------------	----------------

None to date (See letter attached)

10. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activity or I am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

Dec. 7, 1990
DATE

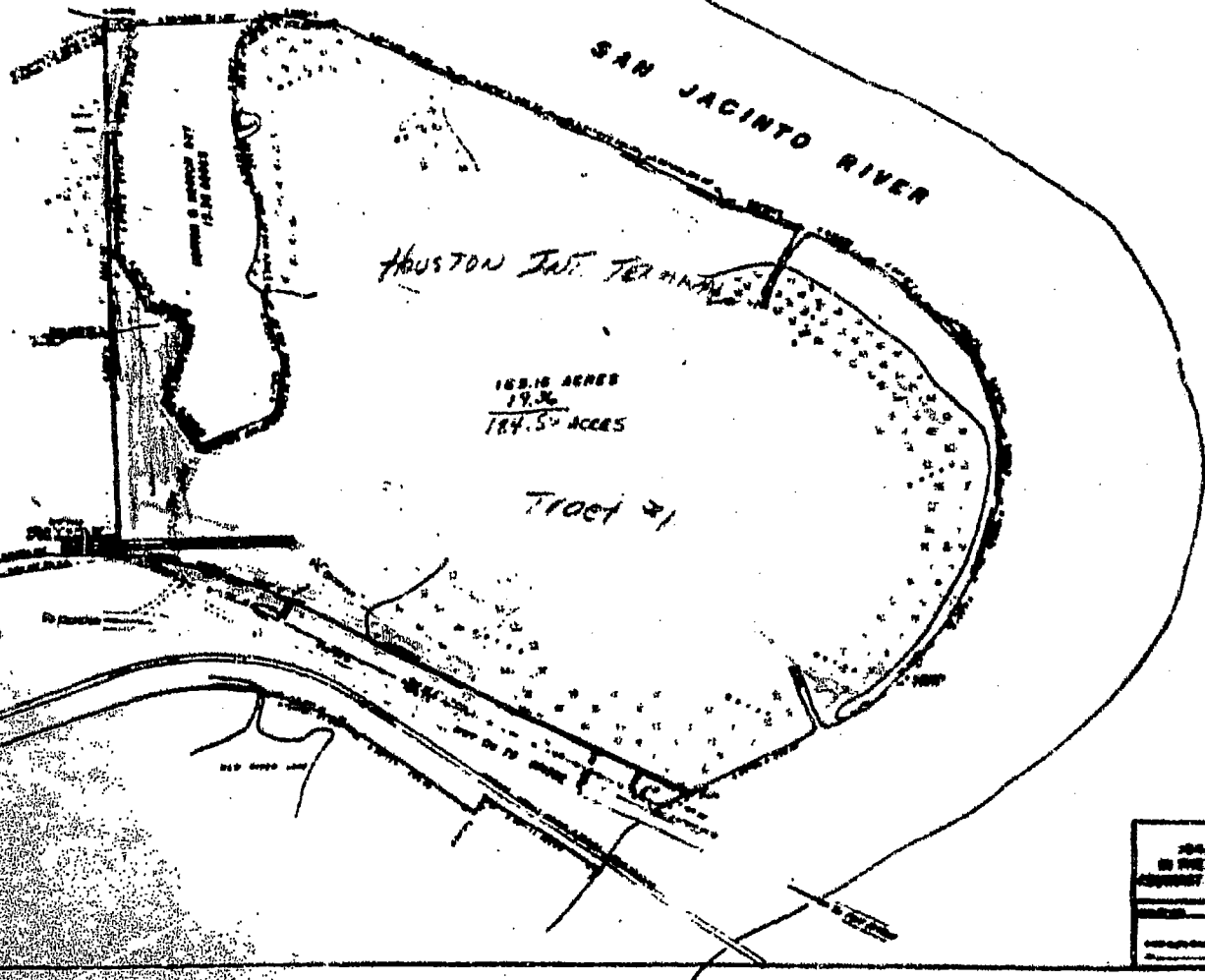
SIGNATURE OF AGENT

DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 3 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of The United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

19284



SURVEY OF
1640 ACRES OF LAND
IN THE J.T. HOWELL SURVEY,
HARRIS COUNTY, TEXAS.
AS SHOWN ON THE
ORIGINAL SURVEY
MAP.

EXHIBIT D-1

EXHIBIT D-1

Big Star Barge & Boat Co., Inc.
2435 Broadway
Pearland, TX 77581
713-254-6007

RECEIVED
10 SEP 27 / 11:12:00

September 23, 2010

Mr. Robert Werner, Enforcement Officer
Superfund Enforcement Assessment Section (6SF-TE)
U.S EPA, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733
VIA USPS Certified Mail # 7008 1830 0000 5699 0134

Re: San Jacinto River Waste Pits Superfund Site, Channelview, TX
SSID No. 06ZQ, EPA ID No. TXN000606611
CERLA 104(e) INFORMATION REQUEST

Dear Mr. Werner,

Enclosed please find Big Star Barge & Boat Co., Inc's response, with
enclosures, to your agency's Information Request.

Sincerely yours,



Jay W. Roberts
President
Big Star Barge & Boat Co., Inc.

Enclosures



610642

ENCLOSURE 4

SAN JACINTO RIVER WASTE PITS SUPERFUND SITE

INFORMATION REQUEST

QUESTIONS

1. Identify the person(s) that provides answers to the questions below on behalf of Big Star Barge & Boat Company, Inc.

A. Jay W. Roberts.

President

Big Star Barge & Boat Company, Inc.

2435 E. BROADWAY

PEARLAND, TX 77581

B. William L. H. Morgan, Jr.

12815 Gulf Freeway

Houston, Texas 77034-4807

Telephone 281 481 5807

Email Billmorgan@msn.com

Attorney for Big Star Barge & Boat Company, Inc.

2. Please identify the organizational relationship between Houston International Terminal, Inc. and Big Star Barge & Boat Company, Inc.

Big Star Barge & Boat Company, Inc. is a corporation organized in the State of Texas on July 11, 1969, owned 100% by Stella Roberts until her death on April 21, 2001, at which time 48% was distributed to Jack Roberts, 26% to Jay W. Roberts, and 26% to Diana L. Roberts. Houston International Terminal, Inc. is a corporation organized in the State of Texas on February 16, 1982 owned 52% by Jack Roberts and 48% by Stella Roberts until her death on April 21, 2001, at which time her interest was distributed 24% to Jay W. Roberts, and 24% to Diana L. Roberts.

3. Has BSB ever participated in any planning for dredging activities in the area of the San Jacinto River, along its south bank on the north side of the I-10 Bridge in Harris County, Texas (see Enclosure 5, Aerial photo).

NO

4. Has BSB ever participated in any dredging activities in the area of the San Jacinto River, along its south bank on the north side of the I-10 Bridge in Harris County, Texas (see Enclosure 5, Aerial photo).

NO

5. If your answer to either question #3 or #4 is yes:

- A. Please provide copies of all documents in your possession that describe or contain any information that pertains to BSB's participation in planning and/or dredging operations in the above described area of the San Jacinto River.
- B. Please describe the dredging activities that BSB participated in planning for and/or was involved with sand dredging operations conducted in the above described area of the San Jacinto River. Your answer should include, but not be limited to:
- 1) The period that actual dredging activities occurred.
 - 2) The name of any third party that directed, controlled, or participated in BSB's involvement with dredging operations in the above described area of the San Jacinto River.
 - 3) The location placement of any waste dredging material, i.e., disposition of "overburden" that resulted from sand dredging activities in the above described area of the San Jacinto River.
6. If your answer to the above questions #3 and #4 is no, please explain why a Letter, dated November 20, 1998 from Houston International Terminal to Department of the Army (see Exhibit 5) identifies that, "The original permit was issued after much discussion during conferences and meeting with Parker Brothers. As you know Parker merged to form Parker LaFarge which set back our operations by at least a year. Only one (1) barge load was removed by Parker LaFarge....In late 1997 we entered into a working contract with Mega Sand (Dan & Brenda Moore) who agreed to the mitigation plan. In September 1997 dredging recommenced and work on the mitigation plan started."

Since the letter referenced above was from Houston International Terminal, Inc., said letter does not implicate that BSB participated in the comments or actions referenced therein.

7. Please identify the names of all dredging companies that you have reason to believe have, at any time, participated in the planning of, and/or participated in, dredging operations in the above described area of the San Jacinto River.

Although Big Star Barge & Boat Company, Inc. was not a party to any dredging operations in the above described area of the San Jacinto River, Big Star Barge & Boat Company, Inc. is aware only of a lease whereby Houston International Terminal, Inc. authorized MegaSand Enterprises, Inc. to dredge sand from said area.

8. Please identify the owner of record for the area in the above described area of the San Jacinto River.

Big Star Barge & Boat Company, Inc.

9. If BSB is the owner of record for the above described area of the San Jacinto River, please provide EPA with a copy of the current recorded deed that documents BSB's ownership.

STATE OF TEXAS
COUNTY OF HARRIS

KNOW ALL MEN BY THESE PRESENTS
145-07-0316

350

TO TRIUMPH INDUSTRIES, INC.

BY ES46564

145-07-0316

OF HARRIS COUNTY, TEXAS

, hereinafter called grantor, in consideration of the sum of

ONE HUNDRED SIXTY-FIVE THOUSAND AND NO/100 DOLLARS
to said grantor to be paid by the grantee hereinafter named, the receipt of which is hereby acknowledged, and the
further consideration of the creation and delivery by the grantor herein of his new certain promissory note of date
date hereinafter in the principal sum of ONE HUNDRED SIXTY-FIVE THOUSAND AND NO/100

payable to the order of FIRST STATE BANK & TRUST CO. (\$165,000.00) DOLLARS,
hereinafter called payee, representing funds advanced by payee to the grantor herein, at the request of and to a loan to
the grantor herein as part of the purchase price of the property herein conveyed, which note is payable on specified
terms and bears interest at the rate specified therein, and contains the usual accelerated maturity, provision for at-
torney's fees specified therein and has default clause, and in addition to the vendor's lien retained herein in favor of
payee securing its payment, the grantor herein executed a deed of trust of even date with said note to WILLIAM
C. BOYD.

Trustor; here Granted, Sold and Conveyed.

and by these presents do Grant, Sell and Convey unto BIG STAR SARGE & SOAT COMPANY, INC.

of HARRIS County, Texas, herein called grantee, all that certain property situate in the County
of HARRIS, State of Texas, described as follows, to-wit:

See Exhibit "A", attached hereto and incorporated
herein by reference for all purposes

FILED
JUL 1 2 21 PM 1976

CLERK OF COUNTY OF HARRIS

mineral interests, royalty reservations, mineral leases
This conveyance is made subject to the following matters, to the extent same are in effect at this time: Any and all
collisions, covenants, conditions and easements, if any, relating to the hereinabove described property, but only to the
extent they are still in effect, shown of record in Harris County and State, and to all existing laws, regu-
lations and ordinances of municipal and/or other governmental authorities, if any, but only to the extent that they are
still in effect, relating to the hereinabove described property.

TO HAVE AND TO HOLD the said premises, together with all rights, hereditaments and appurtenances thereon
belonging, unto the said grantee above named, his heirs and assigns forever. And grantor does hereby bind himself, his
heirs, executors and administrators to Warrant and Forever Defend the title to the said property unto the said grantee
above named, his heirs and assigns, against every person whatsoever lawfully claiming, or to claim the same, or any
part thereof.

But it is expressly agreed and stipulated that a vendor's lien is retained in favor of payee who will hold superior
title in and to the above described property, premises and improvements, and the title in the grantee will not become
absolute until the above described note, together with all renewals and extensions thereof, and all interest and other
charges thereon specified, are fully paid, according to the time and terms and conditions thereof, when this deed shall be-
come absolute; and it shall be the duty of the grantor herein to be retained in favor of the grantor herein and assigned by
proper assignment to payee without recourse on grantor in any manner for the payment of said indebtedness.

When this deed is executed by more than one person, it shall be construed as though grantor were written gran-
tors and words in their number were changed to correspond; and pronouns of the masculine gender, wherever used
herein, shall include persons of the female sex and corporations and associations of every kind and character; and the
words "heirs, executors and administrators", when this instrument is executed by a corporation shall be construed to
mean successors and assigns, if grantor is more than one person it shall be construed as though grantor were written
grantees and words in their number were changed to correspond and pronouns of the masculine gender, where used
herein as to the grantor, shall be construed to include persons of the female sex, corporations and associations of every
kind and character, and as to a corporation, the word heirs shall be construed as successors.

EXECUTED on the 27th day of July, 1976.

ATTEST:
Secretary

TRIUMPH INDUSTRIES, INC.

[Signature]

STATE OF TEXAS

COUNTY OF HARRIS

Before me, the undersigned authority, on this day personally appeared

Mae M. Zim known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same for the purposes and consideration therein expressed, and in the presence of the following witnesses, and authorized

146-07-0317

to sign and deliver the same for the purposes and consideration therein expressed, and in the presence of the following witnesses, and authorized

STATE OF TEXAS

COUNTY OF HARRIS

Before me, the undersigned authority, on this day personally appeared

Mae M. Zim known to me to be the person whose name is subscribed to the foregoing instrument, and having been examined by me

146-07-0317

and acknowledged to me that she executed the same for the purposes and consideration therein expressed, and in the presence of the following witnesses, and authorized

STATE OF TEXAS

COUNTY OF HARRIS

Before me, the undersigned authority, on this day personally appeared

Mae M. Zim known to me to be the person whose name is subscribed to the foregoing instrument, and having been examined by me

146-07-0317

and acknowledged to me that she executed the same for the purposes and consideration therein expressed, and in the presence of the following witnesses, and authorized

General Warranty Deed
With Lien in Favor of Third Party

TO

Witness my hand and seal of office, this day of _____, 1976.
Notary Public
County, Texas
Return to *Big Bear Beaver Boat Co.*
2918 *Green Lake*
Harland, TX 77581

146-07-0318

EXHIBIT A ATTACHED TO DEED DATED JULY 22, 1976
BETWEEN TRIUMPH INDUSTRIES AS GRANTOR AND BIG STAR MARINE & BOAT CO INC
AS GRANTEE

A Tract of land in the J. F. Harrell Survey, Abstract No. 330, in Harris County, Texas, more particularly described as follows:

BEGINNING at a stake in the West bank of the San Jacinto River and in the North Right of way line of State Highway No. 73;

THENCE North 62 degrees 55 minutes West 1831.71 feet along the North line of said State Highway No. 73 to the beginning of a curve to the left;

THENCE following said curve to the left, having a radius of 1910 feet and a central angle of 10 degrees 28 minutes for a distance of 347.76 feet to the PLACE OF BEGINNING and the Southeast corner of the tract herein described;

THENCE continuing along said curve to the left in the North right of way line of said State Highway No. 73, said curve having a radius of 1910 feet and a central angle of 10 degrees 46 minutes for a distance of 358.91 feet to a 3/4 inch iron pipe at a fence corner marking the Southwest corner of the tract herein described;

THENCE North 0 degrees 59 minutes West 2219.00 feet to a 3/4 inch iron pipe on the South bank of the San Jacinto River from which a 12 inch Cypress marked "X" bears North 55 degrees 43 minutes West 70 feet and a 12 inch Cypress marked "X" bears South 60 degrees 40 minutes West 30 feet;

THENCE North 88 degrees 14 minutes East 96.40 feet along the Southwesterly bank of the San Jacinto River to the West bank of the Horton and Horton Company sand cut;

THENCE along the West bank of said Horton and Horton Company sand cut with the following bearings:

South 10 degrees 04 minutes East 409.70 feet;
South 0 degrees 56 minutes East 547.15 feet;
South 20 degrees 16 minutes East 254.58 feet;
South 66 degrees 09 minutes East 165.68 feet;
South 15 degrees 12 minutes West 340.75 feet;
South 34 degrees 34 minutes East 242.05 feet;
North 68 degrees 47 minutes East 26.59 feet;

THENCE South 0 degrees 59 minutes East 537.60 feet to the PLACE OF BEGINNING.

T163882
Return to: Big Star Barge & Boat Co.
2918 Green Tree Drive
Pearland, Texas 77581

520-03-3167

SPECIAL WARRANTY DEED

THE STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF HARRIS §

5/17/98 2429754 115362

517.50

THAT PARKER BROTHERS & COMPANY, INC., a Texas corporation, located in Harris County, Texas (hereinafter called "Grantor," whether one or more) for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable considerations to Grantor in hand paid by Big Star Barge & Boat Co., Inc., whose address for notice hereunder is 2918 Green Tree, Pearland, Texas 77581 (hereinafter called "Grantee," whether one or more.)

Receipt of all of which is hereby acknowledged and confessed, has GRANTED, BARGAINED, SOLD and CONVEYED and by these presents does GRANT, BARGAIN, SELL and CONVEY, unto said Grantee all that certain tract or parcel of land, together with all improvements thereon, situated in the County of Harris, State of Texas, and described as follows:

All that certain property described on Exhibit "A" attached hereto and made a part hereof for all purposes.

This conveyance is made subject to (i) any and all restrictions, covenants, mineral and/or royalty reservations, covenants, maintenance or similar charges, and easements, if any, relating to the hereinabove described property, but only to the extent that they are still in force and effect, shown of record in said County, and to all zoning laws, regulations and ordinances of municipal and other governmental authorities, if any, but only to the extent that they are still in effect, relating to the hereinabove described property; (ii) any loss or damage resulting from allegations or determinations that the transfer to Grantee was either a preferential or a fraudulent transfer under the bankruptcy or state insolvency laws.

Grantor has executed and delivered the Deed and has granted, bargained, sold and conveyed the Property, and Grantee has received and accepted this Deed and has purchased the Property, AS IS, WHERE IS, AND WITH ALL FAULTS, AND WITHOUT ANY REPRESENTATIONS OR WARRANTIES WHATSOEVER, EXPRESSED OR IMPLIED, WRITTEN OR ORAL, EXCEPT SOLELY THE WARRANTY OF TITLE EXPRESSLY SET FORTH HEREIN; IT BEING THE INTENTION OF GRANTOR AND GRANTEE TO EXPRESSLY REVOKE, RELEASE, NEGATE AND EXCLUDE ALL REPRESENTATION AND WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY AND ALL EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES AS TO (a) THE CONDITION OF THE PROPERTY OR ANY ASPECT THEREOF, INCLUDING, WITHOUT LIMITATION, ANY AND ALL EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES RELATED TO SUITABILITY FOR HABITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE; (b) THE NATURE OR QUALITY OF CONSTRUCTION, STRUCTURAL DESIGN OR ENGINEERING OF THE IMPROVEMENTS; (c) THE QUALITY OF THE LABOR OR MATERIALS INCLUDED IN THE IMPROVEMENTS; (d) THE SOIL CONDITIONS, DRAINAGE, TOPOGRAPHICAL FEATURES OR OTHER CONDITIONS OF

520-03-3108

THE PROPERTY OR WHICH AFFECT THE PROPERTY; (v) ANY CONDITIONS AT OR WHICH AFFECT THE PROPERTY WITH RESPECT TO ANY PARTICULAR PURPOSE, USE, DEVELOPMENT POTENTIAL, INGRESS, EGRESS OR OTHERWISE; (vi) THE AREA, SIZE, SHAPE, CONFIGURATION, LOCATION, CAPACITY, QUANTITY, QUALITY, VALUE, CONDITION, MAKE, MODEL, COMPOSITION, AUTHENTICITY OR AMOUNT OF THE PROPERTY; (vii) ANY ENVIRONMENTAL, GEOLOGICAL, METEOROLOGICAL, STRUCTURAL OR OTHER CONDITION OR HAZARD OR THE ABSENCE THEREOF HERETOFORE, NOW OR HEREAFTER AFFECTING IN ANY MANNER ANY OF THE PROPERTY; AND (viii) ALL OTHER EXPRESS OR IMPLIED WARRANTIES AND REPRESENTATIONS BY GRANTOR WHATSOEVER, EXCEPT SOLELY THE WARRANTY OF TITLE EXPRESSLY SET FORTH HEREIN.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging, unto the said Grantor and Grantee's heirs, successors and assigns, forever; and it is agreed that Grantor and Grantor's heirs, successors, and assigns are hereby bound to warrant and forever defend, all and singular, the premises, unto the said Grantee and Grantee's heirs, successors and assigns, against every person who may lawfully claim or to claim the same or any part hereof, by, through, or under Grantor, but not otherwise.

Taxes for the current year have been paid as of the date hereof, and Grantor assumes and agrees to pay the same.

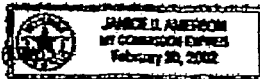
EXECUTED as of the 23rd day of July, 1998.

PARKER BROTHERS & COMPANY, INC.

By: [Signature]
Robert R. Ferris, President

THE STATE OF TEXAS §
 §
COUNTY OF HARRIS §

This instrument was acknowledged before me on the 23rd day of April, 1998 by Robert R. Ferris, President of PARKER BROTHERS & CO., INC., a Texas corporation, for and on behalf of said Texas corporation.



[Signature]
Notary Public, State of Texas

My commission expires:

02-20-02

Notary Name Printed or Typed

Janice D. Amerson



LAND DATA SURVEYS, INC.

DON DENSON
Registered Professional Land Surveyor

520-03-3100

EXHIBIT "A"

File No. 98-023A3

May 22, 1998

METES AND BOUNDS DESCRIPTION 0.7420 ACRES

A tract of land containing 0.7420 acres being part of and out of the residue of an original called 80 Acre Tract as cited in Volume 2821, Page 313 of the Harris County Deed Records (HCDR), in the J.T. Harrell Survey, Abstract No. 330, in Harris County, Texas; said 0.7420 acres being more particularly described by metes and bounds as follows:

COMMENCING at the intersection of the northerly right-of-way line of Interstate Highway 10 with the westerly line of SAN JACINTO RIVER ESTATES, a subdivision of land according to the map or plat thereof recorded in Volume 16, Page 9 of the Harris County Map Records, from which a found 1-inch iron pipe bears witness at N 00 deg. 38' 00" W, a distance of 1.77 feet (said pipe being as shown on plat of survey of the herein described tract prepared September 15, 1954 by R.M. Atkinson, PE);

THENCE, N 00 deg. 38' 00" W, along the westerly line of said called 80 Acre Tract as described in Volume 2821, Page 313, HCDR, and as indicated on said plat by Atkinson, at a distance of 640.00 feet pass a 5/8-inch iron rod set for reference, and continuing for a total distance of 662.55 feet to the water's edge of the southerly bank of the San Jacinto River;

THENCE, continuing EASTERLY along and with the meanders of the water's edge of the southerly bank of the San Jacinto River, for an approximate total distance of 4,474 feet to the point of intersection of the water's edge of the southerly bank of the San Jacinto River with the east line of said called 80 Acre Tract;

THENCE, S 00 deg. 38' 00" E, along the east line of said called 80 Acre Tract, at 45.73 feet, more or less, pass a 5/8-inch iron rod set for reference, and continuing for a total distance of 141.12 feet to the POINT OF BEGINNING;

THENCE, S 89 deg. 22' 00" W, for a distance of 100.00 feet to a point for corner;

THENCE, S 00 deg. 38' 00" E, for a distance of 323.20 feet to a point for corner;

THENCE, N 89 deg. 22' 00" E, for a distance of 100.00 feet to a point for corner, on the east line of the aforesaid called 80 Acre Tract;

P.O. Box 850027 - Houston, Texas 77289-0027
Office: (713) 643-8585 • Fax: (281) 332-0950

Page Two

520-03-3178

THENCE, N 00 deg. 38' 00" W, along the easterly line of said 80 Acre Tract, for a distance of 323.20 feet to the POINT OF BEGINNING, of a tract containing 0.7420 acre of land.



[Signature]

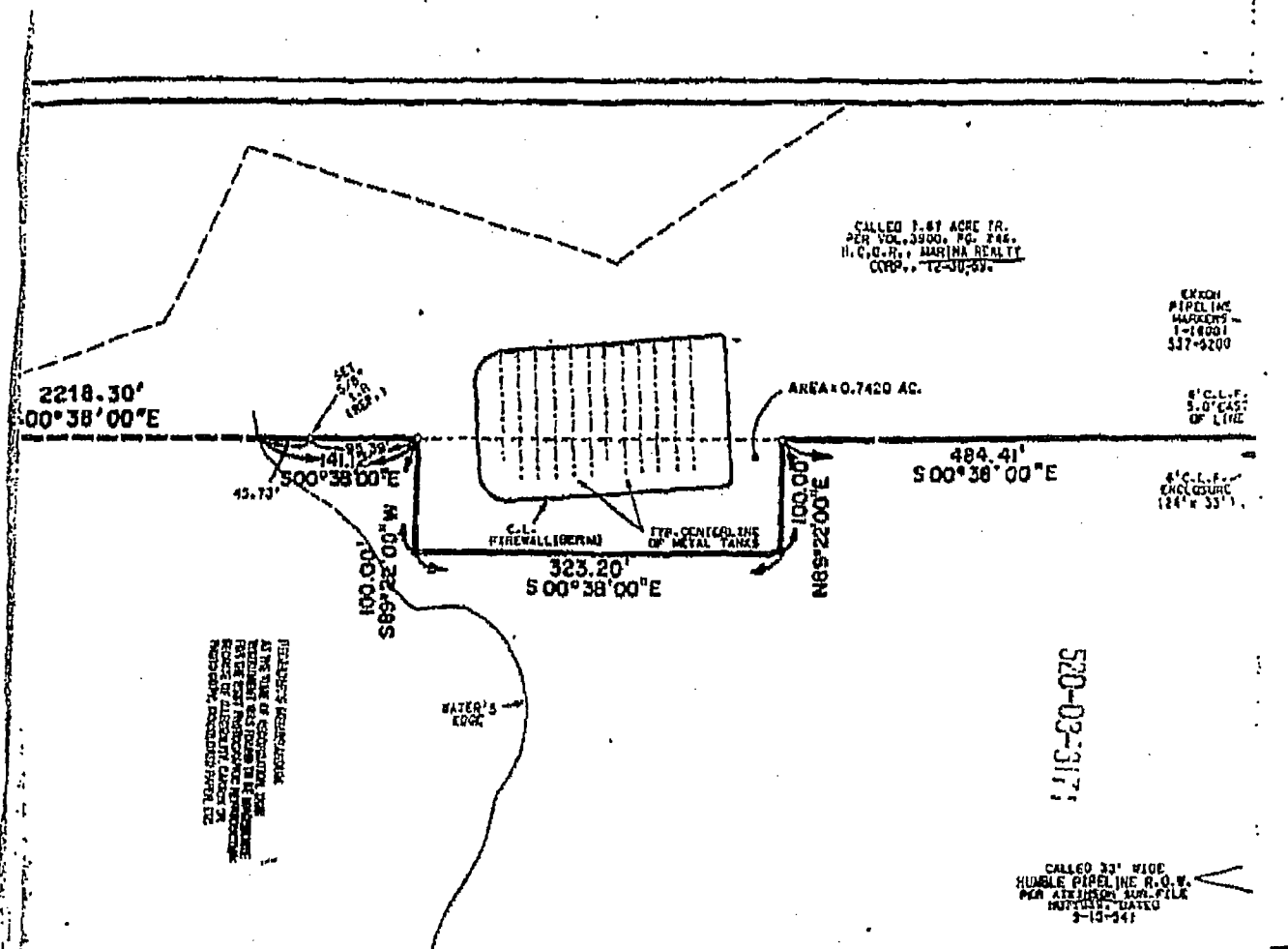
Date 5-22-98

Don Denson, RPLS # 2058; STATE OF TEXAS

FILED FOR RECORD
8:00 AM

JUL 27 1998

[Signature]
County Clerk, Harris County, Texas



any information which would tend to identify or locate the person or persons who
are the source of such information shall be kept confidential and shall not be disclosed
to any other person except as may be required by law.

City of New York

I hereby certify that the foregoing are TRUE to the best of my knowledge and belief.
Respectfully, in testimony whereof I have hereunto set my hand and seal at New York City,
this _____ day of _____, 19____.

Public Health Commissioner

JUL 27 1958

JUL 27 1952

Barclay B. Hoffman
COUNTY CLERK
MARICOPA COUNTY, ARIZONA



6654979

A 27052 C5128

8852703 995674 350929 LS B PD

0.00

165-86-0015

GENERAL WARRANTY DEED

THE STATE OF TEXAS

§
§
§

COUNTY OF HARRIS

KNOW ALL MEN BY THESE PRESENT:

9
9
THAT M. MICHAEL GORDON (a single man who has never been married) and FRANK F. SPATA (who is not joined by his wife herein for the reason that the real property hereinafter conveyed does not constitute or form any part of their residence or business homestead) both of the County of Harris, State of Texas, herein called Grantors, for and in consideration of the sum of TEN (\$10.00) DOLLARS to them in hand paid by BIG STAR BARGE & BOAT CO., INC., a Texas Corporation, herein called Grantee, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed;

HAVE GRANTED, SOLD and CONVEYED and do by these presents GRANT, SELL and CONVEY unto the Grantee the surface estate only in and to that certain tract of land containing 190.8 acres, more or less, out of the Josiah T. Harrell Survey, Abstract No. 330, Harris County, Texas, described as Tract Number One (1) in deed from Edward Shields, et ux, to M. Michael Gordon and Frank F. Spata, dated November 15, 1943 and recorded in Volume 1297, Page 16 of the Deed Records of Harris County, Texas, SAVE AND EXCEPT the following:

- (a) 12.84 acres conveyed to the State of Texas for road purposes by deed, dated September 15, 1947, and recorded in Volume 1662, Page 489 of the Deed Records of Harris County, Texas; and
- (b) 7.89 acres conveyed to Marina Realty Corporation by deed, dated December 30, 1959 and recorded in Volume 3900, Page 246 of the Deed Records of Harris County, Texas; and
- (c) 20 acres conveyed to Virgill G. McGinnes, Trustee, by deed, dated August 12, 1965 and recorded in Volume 6037, Page 352 of the Deed Records of Harris County, Texas.

TO HAVE AND TO HOLD the above described premises together with all and singular the rights and appurtenances therein in anywise

165-86-0016

belonging, unto the Grantee, its successors and assigns forever; and Grantors do hereby bind themselves, their heirs, executors and administrators to WARRANT AND FOREVER DEFEND all and singular the said premises unto the Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

This Conveyance is made and accepted subject to any and all restrictions, easements, reservations and other conditions, if any, relating to the above described real property, to the extent, and only to the extent, that the same may still be in force and effect, shown of record in the office of the County Clerk of Harris County, Texas, and more particularly to the following:

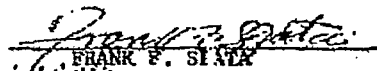
- (a) All visible and apparent easements not of record in the Office of the County Clerk of Harris County, Texas.
- (b) Unobstructed easement five (5) feet in width along the west property line of the property, together with an unobstructed aerial easement adjoining thereto ten (10) feet wide from a plane twenty (20) feet above the ground upward, granted to Houston Lighting and Power Company by unrecorded instrument, dated May 11, 1960, said easement being further located by Sketch No. AH-13867-H attached thereto.
- (c) Easement for ingress and egress to San Jacinto River, over and across that certain 19.36 acre body of water known as Horton and Horton Cut, together with the right and privilege to construct and maintain docks or wharves, granted to Marina Realty Corporation as described in unrecorded instrument, dated November _____, 1967.
- (d) Pipeline easement granted to Humble Pipe Line Company by instrument recorded in Volume 934, Page 485 of the Deed Records of Harris County, Texas, as defined and limited to a fifty (50) foot strip by instrument recorded in Volume 6050, Page 3 and in Volume 6179, Page 521, both of the Deed Records of Harris County, Texas.
- (e) Easement for flare vent stack and elevated walkway granted to Humble Pipe Line Company by unrecorded instrument, dated August 29, 1968, said easement being located within the above described fifty (50) foot strip and further located on Humble Pipe Line Company Survey No. 1480, Sketch B-4955, dated August 7, 1968.
- (f) Oil, Gas and Mineral Lease, dated October 5, 1979, by and between M. Michael Gordon and Frank F. Spata, as Lessors and Energetics, Inc., as Lessee, for a primary term of three (3) years with waiver of surface rights contained therein.

165-86-0017

(g) Unrecorded lease agreement between Grantors herein, as Lessors, and Sterling & Sterling/Advertising, Inc., as Lessee, covering present placement of billboard or advertising sign; and which lease terminates on February 28, 1981.

EXECUTED at Houston, Texas, this 27 day of AUGUST, 1980 A.D.


M. MICHAEL GORDON

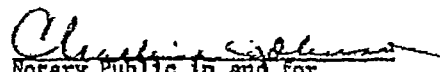

FRANK F. SPATA

THE STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared M. MICHAEL GORDON, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 27 day of August, 1980.



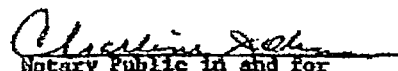

Notary Public in and for
Harris County, Texas.

THE STATE OF TEXAS
COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared FRANK F. SPATA, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 27 day of August, 1980.




Notary Public in and for
Harris County, Texas.

Return to:
Big Star Barge
2918 Tracy Ave
Pearland, Texas 77581

165-86-0018

STATE OF TEXAS
COUNTY OF HARRIS

I hereby certify that this instrument was FILED in
the Public Records on the 27th day of August 1980 at the time stamped
above by me and was duly RECORDED in the Official
Public Records of that County of Harris County, Texas on

AUG 27 1980



John L. Williams
COUNTY CLERK,
HARRIS COUNTY, TEXAS

FILED
AUG 27 3 42 PM 1980
John L. Williams
COUNTY CLERK
HARRIS COUNTY, TEXAS

EXHIBIT D-2

EXHIBIT D-2

Houston International Terminal, Inc.
2435 Broadway
Pearland, TX 77581
713-254-6007

RECEIVED
10 SEP 27 AM 12:00
FBI - HOUSTON

September 23, 2010

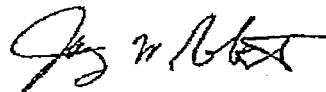
Mr. Robert Werner, Enforcement Officer
Superfund Enforcement Assessment Section (6SF-TE)
U.S EPA, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733
VIA USPS Certified Mail # 7008 1830 0000 5699 0127

Re: San Jacinto River Waste Pits Superfund Site, Channelview, TX
SSID No. 06ZQ, EPA ID No. TXN000606611
CERLA 104(e) INFORMATION REQUEST

Dear Mr. Werner,

Enclosed please find Houston International Terminal Inc.'s response,
with enclosures, to your agency's Information Request.

Sincerely yours,



Jay W. Roberts
President
Houston International Terminal, Inc.

Enclosures



610644

ENCLOSURE 4

SAN JACINTO RIVER WASTE PITS SUPERFUND SITE

INFORMATION REQUEST

QUESTIONS

1. Identify the person(s) that provides answers to the questions below on behalf of Houston International Terminal, Inc.

A. Jay W. Roberts
President
Houston International Terminal, Inc.
2435 E. BROADWAY
PEARLAND, TX 77581

B. William L. H. Morgan, Jr.
12815 Gulf Freeway
Houston, Texas 77034-4807
Telephone 281 481 5807
Email Billmorgan@msn.com
Attorney for Houston International Terminal, Inc.

2. Please identify the organizational relationship between Houston International Terminal, Inc. and Big Star Barge & Boat Company, Inc.

Big Star Barge & Boat Company, Inc. is a corporation organized in the State of Texas on July 11, 1969, owned 100% by Stella Roberts until her death on April 21, 2001, at which time 48% was distributed to Jack Roberts, 26% to Jay W. Roberts, and 26% to Diana L. Roberts. Houston International Terminal, Inc. is a corporation organized in the State of Texas on February 16, 1982 owned 52% by Jack Roberts and 48% by Stella Roberts until her death on April 21, 2001, at which time her interest was distributed 24% to Jay W. Roberts, and 24% to Diana L. Roberts.

3. Has HIT ever participated in any planning for dredging activities in the area of the San Jacinto River, along its south bank on the north side of the I-10 Bridge in Harris County, Texas (see Enclosure 5, Aerial photo).

HIT submitted an application with the Corps of Engineers for a dredging permit for the area and entered into a lease with MegaSand Enterprises, Inc. for MegaSand Enterprises, Inc. to dredge sand from the area.

4. Has HIT ever participated in any dredging activities in the area of the San Jacinto River, along its south bank on the north side of the I-10 Bridge in Harris County, Texas (see Enclosure 5, Aerial photo).

HIT entered into a lease with MegaSand Enterprises, Inc. for MegaSand Enterprises, Inc. to dredge sand from the area.

5. If your answer to either question #3 or #4 is yes:

- A. Please provide copies of all documents in your possession that describe or contain any information that pertains to HIT's participation in planning and/or dredging operations in the above described area of the San Jacinto River.

The dredging permit and lease with MegaSand Enterprises, Inc. is attached.

- B. Please describe the dredging activities that HIT participated in planning for and/or was involved with sand dredging operations conducted in the above described area of the San Jacinto River. Your answer should include, but not be limited to:

- 1) The period that actual dredging activities occurred.

During the term of the above described lease with MegaSand Enterprises, Inc.

- 2) The name of any third party that directed, controlled, or participated in HIT's involvement with dredging operations in the above described area of the San Jacinto River.

MegaSand Enterprises, Inc.

- 3) The location placement of any waste dredging material, i.e., disposition of "overburden" that resulted from sand dredging activities in the above described area of the San Jacinto River.

It is the understanding of HIT that a small part of the Overburden may have been placed in the Corps of Engineers "mitigation" area, however, since MegaSand Enterprises, Inc. was conducting the dredging operations HIT personnel aren't aware of all of the specifics of said operations.

6. If your answer to the above questions #3 and #4 is no, please explain why a Letter, dated November 20, 1998 from Houston International Terminal to Department of the Army (see Exhibit 5) identifies that, "The original permit was issued after much discussion during conferences and meeting with Parker Brothers. As you know Parker merged to form Parker LaFarge which set back our operations by at least a year. Only one (1) barge load was removed by Parker LaFarge....In late 1997 we entered into a working contract with Mega Sand (Dan & Brenda Moore) who agreed to the mitigation plan. In September 1997 dredging recommenced and work on the mitigation plan started."

NA.

7. Please identify the names of all dredging companies that you have reason to believe have, at any time, participated in the planning of, and/or participated in, dredging operations in the above described area of the San Jacinto River.

Houston International Terminal, Inc. was not a party to any dredging operations in the above described area of the San Jacinto River, Houston International Terminal, Inc. is

aware only of a lease whereby Houston International Terminal, Inc. authorized MegaSand Enterprises, Inc. to dredge sand from said area.

8. Please identify the owner of record for the area in the above described area of the San Jacinto River.

Big Star Barge & Boat Company, Inc.

9. If HIT is the owner of record for the above described area of the San Jacinto River, please provide EPA with a copy of the current recorded deed that documents HIT's ownership.

NA

DEPARTMENT OF THE ARMY PERMIT

Facilities: Houston International Terminal

Permit No. 19284

Issuing Office: Galveston District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To dredge sand for commercial sale and to provide a barge berthing area, and to create a fenced smooth cordgrass marsh area for mitigation; in accordance with the attached plans in six sheets, sheet one of which is entitled "HOUSTON INTERNATIONAL TERMINALS."

Project Location: San Jacinto River, along the south bank, north of the Interstate 10 bridge in Channelview, Harris County, Texas.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 1995. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

DAAG FORM 1727, Nov 80

EDITION OF REF 82 IS OBSOLETE.

(23 CFR 225 (Appendix A))

d. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

e. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

f. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

Further Information:

1. Congressional Authorization: You have been authorized to undertake the activity described above pursuant to:

☒ Section 10 of the Rivers and Harbors Act of 1899 (43 U.S.C. 403).

☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).

☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

a. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Revocation of Permit Decision:** This office may revoke its decision on this permit at any time the circumstances warrant. Circumstances that could require a revocation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a revocation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 329.7 or enforcement procedures such as those contained in 33 CFR 329.4 and 329.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 329.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions:** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a revocation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as *John H. Miller*, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE)

HOUSTON INTERNATIONAL TERMINAL

11 May 1992
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Bruce V. Bennett

(DISTRICT ENGINEER)

BRUCE H. BENNETT, Acting Chief,
North Evaluation Section
FOR COLONEL BRINK P. MILLER

11 MAY 1992

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

LEASE AGREEMENT FOR MINING AND DREDGING
OF SAND

This agreement is made by MegaSand Enterprises, Inc., (MS) herein called Lessee and HOUSTON INTERNATIONAL TERMINAL (HIT), herein called Lessor, whether one or more. This lease is to be for excavating, dredging, or mining of sand, dirt and gravel, and does not affect the mineral rights of the land.

In consideration of the mutual covenants and agreements herein set forth, and other good and valuable consideration, Lessor does hereby demise and lease and Lessee does hereby lease from Lessor property located at HIT terminal on the San Jacinto River, North of the I-10 East bridge at the San Jacinto River in East Harris County, Texas, herein called and designated as "Leased Property" for mining, dredging, removing or selling commercially recoverable sand and associated products.

TERMS

The term of this lease shall commence immediately upon execution of this agreement and shall continue until the current Corps Of Engineers Permit number 19824 issued May 11, 1992 scheduled to terminate November 30, 1998, and not less than one (1) extension, renewal or newly acquired permit shall expire. Upon termination of the current permit to dredge, HIT shall be responsible for extending the permit for a minimum period of three (3) years. If HIT is unable to extend the permit, this agreement will terminate upon expiration of the permit.

Notice of intent to vacate or intent not to renew the lease must be given on or before the 30 days prior to expiration of any permit to dredge issued by the Corps of Engineers, or applicable authority.

Lessee agrees to abide by all Federal, state and Local laws so far as the operation is concerned.

This lease cannot be reassigned to any individual, company, corporation or partnership without the express written permission of Lessor.

Lessee agrees to pay the agreed price for all sand, dirt gravel or other products taken from the land by the 20th of the following month. Sand shall be measured and paid by either by cubic yards, or by the ton, whichever is applicable.

Lessee agrees to pay \$.65 (65 cents) per cubic yard for sand recovered and measured for resale, or fifty cents (\$.50) per ton for sand recovered for resale.

Lessor agrees that for a the period of the lease that it will not lease any part of this property for the excavation, mining or dredging of sand except for the Lessee named in this contract.

Possession of the Leased Property shall be delivered to Lessee on the commencement date unless possession is delayed due to construction or repairs in which event Lessor shall not be liable to Lessee for such delay, and this Lease shall remain in effect subject to the following terms:

- (a) All payments shall be abated on a daily basis during such delay, and
- (b) should the delay exceed 3 days after the commencement date, Lessee may terminate this Lease by giving written notice to Lessor of such termination and Lessor shall immediately refund to Lessee any deposits and rentals paid and neither party shall thereafter have any obligations to the other pursuant to this Lease.

Minor maintenance or repairs to be performed on commencement date shall not prevent delivery of possession to Tenant.

Lessee agrees that any breach of any part of this contract constitutes loss of good faith and automatically and immediately terminates the total contract.

Should Lessee pay with a check and the check is returned by his/her bank because of insufficient funds, or because the account has been closed, or any other reason that is the fault or within the control of Lessee, a penalty of twenty-five (\$25.00) dollars shall be assessed for the returned check and loss of use of the funds for the period that the check has been outstanding. If one check is returned for any of the above reasons, then Lessee may be required to pay from that day forward for the remainder of the lease term with cash, or certified funds (certified check, or money order).

HTT hereby covenants and agrees to provide an area for the installation and maintenance of a cyclone wash sand and cement stabilized sand plant with electric utilities provided on site for the operation which shall be a minimum of 15,000 square feet in an area of approximately 300 feet by 500 feet. HTT agrees to provide unimpeded access and easement(s) over its property for the ingress and egress of MS vehicular traffic and all traffic to support the operation.

Lessee agrees to release Lessor from any and all liabilities arising from any dispute wherein the handling use or sale of sand is concerned including any and all personal injuries and suits.

Lessor and, or its agent shall have the right at all reasonable times during the term of this lease with reasonable notice to enter the leased property for the purpose of inspecting them to determine if the terms of this lease are being kept.

Texas law is to apply and any action is to be brought in the Courts of Harris County, Texas, or the nearest Federal Courts thereto.

WARRANTIES

HIT warrants that the property covered by this agreement and the Corps of Engineers Permit is owned and controlled by HIT and will indemnify and hold MS harmless from and in any action covering the property, its ownership, control, or use consistent with the terms and conditions contained herein.

HIT warrants the Corps of Engineers Permit is valid, existing and current as of the date of signing of this agreement and that no other permits or authorizations are needed, necessary or required by any of the federal, state or local governmental body or agency for MS to conduct its operations on the leased property. Should any other permits or authorizations be needed, necessary, or be required by any of the federal, state or local governmental body or agency, HIT shall take whatever actions are necessary to acquire such permit or authority and will indemnify and hold harmless MS from all adverse actions concerning the permits or authorizations.

MS shall operate within the parameters and conditions of any permit or authorization and shall indemnify and hold HIT harmless for its failure to operate within such permit or authorization.

Any property left in or about the property by Lessee after the expiration of the lease, abandoning or vacating the property without notice to Lessor, shall be considered as abandoned and may be disposed of as Lessor sees fit without recourse by Lessee. All property placed on the property is subject to a lien in the favor of Lessor to secure payment of all sums due and owing hereunder.

HIT hereby covenants and agrees to provide dockage and docking facilities for an area for the safe and unimpeded loading and unloading of sand barges and marine uses to support the operation.

Lessee shall during the term of this lease at its own expense maintain the leased property and the road into and out of the property in as safe and good condition as they were in at the date of this lease, save normal wear and tear, unless said road, or access is used by HIT, its agents, other tenants or assigns, in which case maintenance of the road shall be the responsibility of HIT, its other tenants, agents or assigns.

Should Lessor decide to sell the leased property, Lessee shall be given first right of refusal to purchase the property at a price determined by the then remaining sand reserves, or the price offered by any bona fide purchaser.

Lessor may display, or cause to be displayed on the property a real estate for sale or for lease sign, or other type notice that is intended to give inform the passing public that the property is for sale. Said notice shall state that it is by appointment only and give a phone number whereby the sales agent, or owner may be reached, so as to not inconvenience the Lessee.

Should Lessee be in default in payment of any rents due, in the prompt and full performance of any provision of this lease, or, if the leasehold interest of Lessee be levied on or attached by process of law, or if Lessee makes an assignment for the benefit of creditors, or if Lessee abandons the property, then and in any such event, Lessor may if he/she so elects, either terminate this lease, or without terminating this lease, terminate Lessee's right to possession of the leased property. Recovery of the property shall not relieve the Lessee of any obligations hereunder. All properties on the leased property shall be subject to a lien in favor of Lessor for payment of all sums due and owing.

INDEMNITIES

MS shall operate within the parameters and conditions of any permit or authorization and shall indemnify and hold HIT harmless for its failure to operate within such permit or authorization.

Lessee agrees to indemnify and hold Lessor harmless and free from any and all liability for injury or death of any person, or damage to property arising from use or occupancy of the leased property.

***** It is understood and agreed to by both parties of this lease agreement that a mitigation plan has been submitted to the US Corps of Engineers and Lessee has a copy of that plan and will assist in fulfilling such plan as operation permits.

ATTORNEY'S FEES

Should Lessor prevail in any legal action brought hereunder, Lessor shall be entitled to all costs of the action, including reasonable attorney's fees.

WAIVER

No failure to enforce any term or condition shall be considered a waiver of Lessor's right to enforce the terms or conditions at some later date. Acceptance of less than full rent shall not be considered a waiver of full rent due and owing.

Notices required to be given shall be effective if given in writing at 18001 Interstate 10 East, Channelview, TX 77530, addressed to Lessor, or at 11210 Sralia Road Crosby, TX 77532 addressed to Lessee, or at any other address as may be designated in writing by either party, certified mail, return receipt requested.

THIS IS A LEGAL AND BINDING CONTRACT. READ IT CAREFULLY! You have the right to have it read by an attorney of your choice at your expense if you do not understand your rights and obligations hereunder.

Three sets have been signed as originals with an effective date of the latest date shown by the signatures below.

LESSOR

HOUSTON INTERNATIONAL TERMINAL, INC.

by: Captain Jack Roberts, Pres.

Date

LESSEE

MegaSand Enterprises, Inc.

by: Brenda Moore, Pres.

Date

ATTORNEY'S FEES

Should Lessor prevail in any legal action brought hereunder, Lessor shall be entitled to all costs of the action, including reasonable attorney's fees.

WAIVER

No failure to enforce any term or condition shall be considered a waiver of Lessor's right to enforce the terms or conditions at some later date. Acceptance of less than full rent shall not be considered a waiver of full rent due and owing.

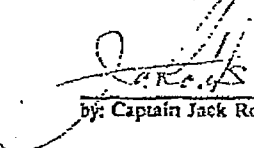
Notices required to be given shall be effective if given in writing at 18001 Interstate 10 East, Channelview, TX 77530, addressed to Lessor, or at 11210 Sralia Road Crosby, TX 77532 addressed to Lessee, or at any other address as may be designated in writing by either party, certified mail, return receipt requested.

THIS IS A LEGAL AND BINDING CONTRACT. READ IT CAREFULLY! You have the right to have it read by an attorney of your choice at your expense if you do not understand your rights and obligations hereunder.

Three sets have been signed as originals with an effective date of the latest date shown by the signatures below.

LESSOR

HOUSTON INTERNATIONAL TERMINAL, INC.


by: Captain Jack Roberts, Pres.


Date

LESSEE

MegaSand Enterprises, Inc.

by: Brenda Moore, Pres.

Date

EXHIBIT E

EXHIBIT E

After recording, return to:

San Jacinto River Fleet, L.L.C.
717 Lakeside
Channelview, Texas 77530

Special Warranty Deed

Notice of confidentiality rights: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

Date: August 11, 2011

Grantor: Big Star Barge & Boat Company, Inc.,
a Texas corporation, also known as Big Star Barge & Boat Co., Inc., and also known as Big Star Barge & Boat Co., Inc., a Texas corporation;
and, to the extent it has any interest in and to the hereinbelow described property,
Houston International Terminal, Inc. a Texas corporation

Grantor's Mailing Address: 2425 Broadway St.,
Pearland, Texas 77581-6407
Brazoria County

Grantee: San Jacinto River Fleet, L.L.C.,
a Texas limited liability company

Grantee's Mailing Address: 717 Lakeside
Channelview, Texas 77530
Harris County

Lender: The Frost National Bank

Lender's Mailing Address 100 W. Houston Street
San Antonio, Texas 78205
Bexar County

Consideration: Cash and a note of even date executed by Grantee and payable to the order of Lender in the principal amount of Six Hundred Sixteen Thousand, Two Hundred Fifty and No/100 DOLLARS (\$616,250.00) (said note being hereinafter referred to as the "Note"). The Note is secured by a first and superior vendor's lien and superior title

retained in this deed in favor of the Lender and by a first-lien deed of trust of even date from Grantee to Jimmy R. Locke, trustee.

Property (including any improvements):

Field notes describing a total of 21.462 acres of land out of the J. T. Harrell Survey, Abstract 330, being 0.742 acre tract out of a called 80 acre tract described in Volume 2821, Page 313 and the residue of a called 190.8 acre tract described in Volume 1297, Page 16 of the Deed Records of Harris County, Texas, November 15, 1943, being 190.8 acres save and except (a) 12.84 acres described in Volume 1662, Page 489; (b) 7.89 acres described in Volume 3900, Page 246; (c) 20.0 acres described in Volume 6037, Page 352, leaving a residue of 150.07 acres as described in 1943. Due to subsidence and other forces, the residue of this tract as surveyed in May 2011 is a total of 20.72 acres (described as tracts: Residue Areas One, Two, Three, Four and Five) which combined with the 0.742 acres yields a total acreage of 21.462, and being more particularly described by metes and bounds on Exhibit "A" attached hereto.

Reservations and Exceptions to and from Conveyance and Warranty: (1) The vendor's lien included herein and Deed of Trust lien under the above indicated Deed of Trust associated with this transaction; and, (2) the reservations and exceptions indicated and described on Exhibit "B" attached hereto; and, (3):

GRANTEE IS TAKING THE PROPERTY IN AN ARM'S-LENGTH AGREEMENT BETWEEN THE PARTIES. THE CONSIDERATION WAS BARGAINED ON THE BASIS OF AN "AS IS, WHERE IS" TRANSACTION AND REFLECTS THE AGREEMENT OF THE PARTIES THAT THERE ARE NO REPRESENTATIONS OR EXPRESS OR IMPLIED WARRANTIES. GRANTEE HAS NOT RELIED ON ANY INFORMATION OTHER THAN GRANTEE'S INSPECTION.

GRANTEE RELEASES GRANTOR FROM LIABILITY FOR ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY, INCLUDING LIABILITY (1) UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA), THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), THE TEXAS SOLID WASTE DISPOSAL ACT, AND THE TEXAS WATER CODE; OR (2) ARISING AS THE RESULT OF THEORIES OF PRODUCT LIABILITY AND STRICT LIABILITY, OR UNDER NEW LAWS OR CHANGES TO EXISTING LAWS ENACTED AFTER THE EFFECTIVE DATE OF THE PURCHASE CONTRACT THAT WOULD OTHERWISE IMPOSE ON GRANTORS IN THIS TYPE OF TRANSACTION NEW LIABILITIES FOR ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY. THIS RELEASE APPLIES EVEN WHEN THE ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY RESULT FROM GRANTOR'S OWN NEGLIGENCE OR THE NEGLIGENCE OF SELLER'S REPRESENTATIVE.

Grantor, for the Consideration and subject to the Reservations and Exceptions to and from Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and successors, and assigns forever. Grantor binds Grantor and Grantor's successors to warrant and forever defend all and singular the Property to Grantee and Grantee's successors,

and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof when the claim is by, through, or under Grantor but not otherwise, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

Lender at Grantee's requests, has paid in cash to Grantor that portion of the purchase price of the Property that is evidenced by the Note. The first and superior vendor's lien against and superior title to the Property are retained for the benefit of the Lender and are transferred to the Lender without recourse against Grantor.

When the context requires, singular nouns and pronouns include the plural.

Big Star Barge & Boat Company, Inc.,
a Texas corporation

By: Jay W. Roberts
Jay W. Roberts, President

Houston International Terminal, Inc.
a Texas corporation

By: Jay W. Roberts
Jay W. Roberts, President

Grantee accepts the deed and consents to its form and substance. Grantee acknowledges that the terms of the deed conform with Grantee's intent and that they will control in the event of any conflict with the contract Grantee signed regarding the Property described in the deed. Grantee agrees to the obligations imposed on Grantee by the terms of the deed

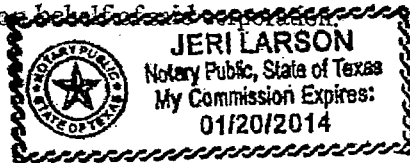
San Jacinto River Fleet, L.L.C.,
a Texas limited liability company

By: William E. THEFTSK
Printed name: William E. THEFTSK
Title: Manager

(Acknowledgments)

STATE OF TEXAS §
COUNTY OF BRAZORIA §

This instrument was acknowledged before me on the 11th day of August, 2011, by Jay W. Roberts, as President of Big Star Barge & Boat Company, Inc., A Texas corporation, in the name of and on behalf of said corporation.



Jeri Larson
Notary Public, State of Texas

This instrument was acknowledged before me on the 11th day of August, 2011, by Jay W. Roberts, as President of Houston International Terminal, Inc., A Texas corporation, in the name of and on behalf of said corporation.



Jeri Larson
Notary Public, State of Texas

This instrument was acknowledged before me on the 11th day of August, 2011, by Earl Thrift, Jr. as Manager of San Jacinto River Fleet, L.L.C., A Texas limited liability company, in the name of and on behalf of said limited liability company.

Jeri Larson
Notary Public, State of Texas



Prepared in the law office of:
William L. H. Morgan, Jr.
12815 Gulf Freeway
Houston, Texas 77034
281-481-5807

EXHIBIT A
TO THE SPECIAL WARRANTY DEED
FROM
BIG STAR BARGE & BOAT COMPANY, INC.
TO SAN JACINTO RIVER FLEET, LLC

STATE OF TEXAS §

COUNTY OF HARRIS §

Field notes describing a total of 21.462 acres of land out of the J. T. Harrell Survey, Abstract 330, being 0.742 acre tract out of a called 80 acre tract described in Volume 2821, Page 313 and the residue of a called 190.8 acre tract described in Volume 1297, Page 16 of the Deed Records of Harris County, Texas, November 15, 1943, being 190.8 acres save and except (a) 12.84 acres described in Volume 1662, Page 489; (b) 7.89 acres described in Volume 3900, Page 246; (c) 20.0 acres described in Volume 6037, Page 352, leaving a residue of 150.07 acres as described in 1943. Due to subsidence and other forces, the residue of this tract as surveyed in May 2011 is a total of 20.72 acres (described as tracts: Residue Areas One, Two, Three, Four and Five) which combined with the 0.742 acres yields a total acreage of 21.462.

All bearings, distances, and acreages are grid and are referenced to the State Plane Coordinate System, NAD 83, Texas South Central Zone, U. S. survey feet. The mapping angle is +01°55'33" and the combined scale factor is 0.999899660. On shore boundaries, points were placed on the line of mean high water and lines connecting them are meander lines. The gauge at Lynchburg (NOAA 87707331) was utilized as the primary gauge for this project.

RESIDUE AREA ONE plus 0.742 ACRES

BEGINNING at a 5/8" iron rod found at the southeast corner of the said 80 acre tract described in Volume 2821, Page 313, also being the southwest corner of the herein described tract of land and being the southwest corner of the tract described as Residue One. This iron rod is in the north right-of-way of Interstate Highway 10 as established in the said (a) 12.84 acres described in Volume 1662, Page 489 and has a state plane coordinate value of N:13,857,921.12 and E: 3,215,107.91.

THENCE with the east line of the called 80 acre tract N02°31'54"W 484.34 feet to a 1/2" iron rod '5502' set at the southeast corner of the said 0.742 acre tract out of the said called 80 acre tract, also being in the west line of the said 190.8 acre tract. From said iron rod an existing chain link fence corner bears S20°03'06"E 2.65 feet.

THENCE S 87°32'27"W 100.00 feet to an iron rod found with cap stamped '2068'.

THENCE N 02°31'54" W with the west line of the said 0.742 acres 323.20 feet to a 1/2" iron rod set with cap '5502' at the northwest corner of the herein described 0.742 acre tract.

THENCE N 87°32'27"E 100.00 feet to a ½" iron rod set '5502' in the west line of the said 190.8 acre tract, also being the east line of the said 80 acre tract and the northeast corner of the herein described 0.742 acre tract. From said iron rod an existing chain link fence corner bears S11°32'08"E 3.28 feet.

THENCE N 02°31'54" W with the west line of the said 190.8 acre tract and the west line of Residue One tract, also being the east line of the said 80 acre tract, at 105.03 feet pass a ½" iron rod set '5502' as reference, and continue for a total distance of 145.03 feet to a point on the line of mean high water from which a chain link fence post bears N40°23'08"E 1.74 feet.

THENCE with the line of mean high water the following meanders:

L1	N53°58'11"E	82.79 feet;
L2	N65°10'44"E	28.54 feet;
L3	N25°48'47"E	26.85 feet;
L4	S88°15'09"E	41.32 feet;
L5	S21°30'35"E	36.86 feet;
L6	N87°55'44"E	74.71 feet;
L7	S73°48'40"E	35.76 feet;
L8	S02°11'01"E	183.58 feet;
L9	S02°12'39"W	267.80 feet;
L10	S27°57'09"E	9.12 feet;
L11	S45°26'57"E	15.69 feet;
L12	S61°42'32"E	175.82 feet;
L13	N56°50'44"E	94.95 feet;
L14	N52°19'13"E	179.58 feet;
L15	S79°27'52"E	14.88 feet;
L16	N00°37'00"W	27.60 feet;
L17	N15°29'28"E	41.88 feet;
L18	N01°36'53"E	294.82 feet;
L19	N20°20'17"E	44.72 feet;
L20	N86°09'14"E	77.82 feet;
L21	S39°13'12"E	40.41 feet;
L22	N73°31'36"E	31.98 feet;
L23	N49°52'20"E	30.97 feet;
L24	S74°27'25"E	32.95 feet;
L25	S38°47'57"E	73.14 feet;
L26	S22°50'50"E	66.58 feet;
L27	S33°02'30"E	69.03 feet;
L28	S13°15'14"E	87.74 feet;
L29	S12°27'06"E	86.91 feet;
L30	S35°50'06"E	80.51 feet;
L31	S07°52'21"E	89.97 feet;
L32	S23°19'20"W	49.33 feet;
L33	S81°19'59"W	50.43 feet;
L34	S67°18'15"W	78.63 feet;

L35	S40°10'19"W	46.49 feet;
L36	S15°55'28"W	69.84 feet;
L37	S03°17'11"E	72.55 feet;
L38	S14°05'38"W	83.40 feet;
L39	S76°32'52"W	51.28 feet;
L40	S29°20'36"W	81.87 feet;
L41	S71°41'00"W	109.37 feet;
L42	S42°47'30"W	131.08 feet;
L43	S65°25'31"W	76.49 feet;
L44	N78°14'08"W	65.08 feet;
L45	S64°42'47"W	14.56 feet to a point at the intersection of the line of mean high water with the north right-of-way line of Interstate Highway 10.

THENCE with a portion of a curve having a radius of 1910.00 feet and a central angle of 49°45'00", the chord of which bears N79°13'10"W 432.24 feet to the PLACE OF BEGINNING of this portion of description containing 0.742 and 17.55 acres (Residue Area One) for a total acreage described of 18.292 acres.

RESIDUE AREA TWO:

BEGINNING on the line of mean high water at state plane coordinate value N:13,859,605.46 and E:3,216,797.72.

THENCE with the line of mean high water the following meanders:

L46	N04°23'08"E	18.98 feet;
L47	S82°16'28"E	89.71 feet;
L48	S19°43'42"W	32.88 feet;
L49	S65°41'41"E	28.40 feet;
L50	N09°21'37"E	40.41 feet;
L51	S86°54'18"E	13.89 feet;
L52	S66°58'16"E	99.64 feet;
L53	S54°17'52"W	62.10 feet;
L54	S81°28'45"W	69.45 feet;
L55	N68°19'32"W	53.83 feet;
L56	N37°42'10"W	78.73 feet to the PLACE OF BEGINNING, containing 0.28 acre of land.

RESIDUE AREA THREE:

BEGINNING on the line of mean high water at state plane coordinate value N:13,858,992.69 and E:3,218,011.53.

THENCE with the line of mean high water the following meanders:

L57	N01°47'03"E	80.55 feet;
L58	N52°11'03"E	28.27 feet;
L59	S62°02'30"E	61.75 feet;
L60	S57°11'44"E	75.55 feet;
L61	S67°16'18"E	72.06 feet;
L62	S52°00'45"E	123.97 feet;

L63	S50°30'21"E	109.26 feet;
L64	S31°30'14"E	154.37 feet;
L65	S30°53'18"W	73.65 feet;
L66	S15°54'02"E	60.81 feet;
L67	S13°39'18"W	81.38 feet;
L68	S20°20'29"W	78.12 feet;
L69	N76°30'21"W	33.51 feet;
L70	N09°09'14"W	66.49 feet;
L71	N01°11'45"W	104.97 feet;
L72	N16°34'16"W	145.29 feet;
L73	N61°03'52"W	124.86 feet;
L74	N45°12'33"W	96.25 feet;
L75	N73°23'12"W	113.92 feet;
L76	N33°07'13"W	37.65 feet;
L77	N14°08'33"W	42.60 feet to the PLACE OF BEGINNING, containing

2.02 acres of land.

RESIDUE AREA FOUR:

BEGINNING on the line of mean high water at state plane coordinate value N: 13,858,637.53 and E: 3,218,521.32.

THENCE with the line of mean high water the following meanders:

L78	S44°27'20"E	51.35 feet;
L79	S17°04'32"E	124.37 feet;
L80	S13°01'37"E	56.51 feet;
L81	S15°37'52"W	24.00 feet;
L82	N12°37'35"W	151.14 feet;
L83	N38°57'27"W	92.00 feet;
L84	N39°32'35"E	19.05 feet to the PLACE OF BEGINNING, containing

0.07 acres of land.

RESIDUE AREA FIVE:

BEGINNING at a ¾" iron pipe at the southwest corner of said 20 acre tract described in Volume 6037, Page 352, also being the southeast corner of the herein described Residue Area Five. Said iron pipe is in the north right-of way of Interstate Highway 10 and has a state plane coordinate value of N: 13,857,338.33 and E: 3,216,627.00.

THENCE with the northerly right-of-way of Interstate 10 N64°25'13"W 931.17 feet to the PC of a curve having a radius of 1910.00 feet and a central angle of 49°45'00".

THENCE with a portion of said curve the chord of which bears N66°26'37"W
131.58 feet to the intersection of the said ROW line with the line of mean high water.

THENCE with the line of mean high water the following meanders:

L87	S86°01'39"E	51.59 feet;
L88	S82°36'07"E	35.73 feet;
L89	S65°57'00"E	105.54 feet;
L90	S60°36'12"E	55.64 feet;
L91	S45°17'18"E	71.68 feet;
L92	S65°30'45"E	113.80 feet;
L93	S77°10'41"E	262.44 feet;
L94	N86°48'54"E	63.72 feet;
L95	S10°56'39"W	33.03 feet;
L96	S59°22'32"E	190.86 feet;
L97	S71°17'43"E	23.64 feet;
L98	S71°38'07"E	48.95 feet;
L99	S21°25'41"E	76.46 feet to the PLACE OF BEGINNING, containing

0.80 acres of land.

EXHIBIT B
TO THE SPECIAL WARRANTY DEED
FROM
BIG STAR BARGE & BOAT COMPANY, INC.
TO SAN JACINTO RIVER FLEET, LLC

Reservations and exceptions:

- a. Rights of Parties in possession. (OWNER POLICY ONLY)
- b. Pipe line easement granted to Humble Pipe Line Company, as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). B-119504. (Volume 3900, Page 246)
- c. Easement granted to Houston Lighting & Power Company as set forth and described by instrument(s) filed for record under Harris County Clerk's File No(s). T-023761
- d. Pipeline easement granted to Humble Oil & Refining Company, by instrument(s) recorded in Volume 934, Page 485 of the Deed Records of Harris County, Texas. (Defined under Harris County Clerk's File No. C-217233)
- e. Right-of-way granted to Humble Pipe Line Company, by instrument(s) recorded in Volume 1068, Page 112 of the Deed Records of Harris County, Texas. (Defined under Harris County Clerk's File No. C-150379)
- f. Pipeline easement granted to Humble Pipe Line Company, by instrument(s) filed for record under Harris County Clerk's File No(s). C-775373.
- g. Easement granted to Houston Lighting & Power Company as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). G-654979.
- h. Easement for ingress and egress as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). G-654979.
- i. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 452, Page 339, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- j. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 441, Page 299, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- k. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 437, Page 591, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- l. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 452, Page 336, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- m. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 440, Page 120, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)

- n. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 793, Page 602, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- o. 1/16th of all oil, gas and other minerals as set forth in instrument(s) filed for record under Harris County Clerks File No(s) B-119504. (Title to said interest not checked subsequent to its date of execution.)
- p. All oil, gas and other minerals as set forth in instrument(s) filed for record under Harris County Clerk's File No(s) D-165288, D-168046, D-057648, D-057649, D-057650, D-057651 and D-324812. (Title to said interest not checked subsequent to its date of execution.)
- q. The terms conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). L-646620. (Title to said lease not checked subsequent to its date of execution.)
- r. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 2541, Page 315, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- s. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). C-349921.(Title to said lease not checked subsequent to its date of execution.)
- t. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 959, Page 457, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- u. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 1160 Page 547, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- v. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). L-166983. (Title to said lease not checked subsequent to its date of execution.)
- w. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). X-253212.(Title to said lease not checked subsequent to its date of execution.)
- x. Any and all unrecorded leases and/or rental agreements, with rights of tenants in possession.
- y. Intentionally deleted.
- z. This company shall have no liability for, nor responsibility to defend, any part of the property described herein against any right, title, interest or claim (valid or invalid) or any character had or asserted by the State of Texas or by any other Government or Governmental Authority or by the public generally (1) in and to portions of the above described property which may be within the bed, shore or banks of a perennial stream or lake navigable in fact or in law or within the bed or shores or the beach adjacent thereto

of a body of water affected by the ebb and flow of the tide; and (2) in and to portions of the above described property which may be between the water's edge and the line of vegetation on the upland or for any claim or right of ingress thereto or egress therefrom.

- aa. This Company shall have no liability for, nor responsibility for, nor responsibility to defend any part of the property described against any right, title, interest or claim (valid or invalid) of any character had or asserted by the State of Texas or by any Government or Governmental Authority, or by the public, generally in or to any portions of the herein described property that may lie within the bed of the San Jacinto River, and further, this Company does not guarantee changed in the boundaries of subject property caused by the forces of erosion, accretion and/or avulsion.
- bb. Intentionally deleted.
- cc. This examination includes the following: that the Underwriter guidelines have been checked to allow a T-19 Endorsement to be issued, subject to the payment of assessments having been paid, the release of right of first refusal if required above. However, subject to Underwriter approval of encroachments or violation of restrictions if any shown on survey.
- dd. Chain link fence encroaches 2.91' into tract on south, as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor No. 5502.
- ee. Billboards, access gates, pipeline signs, barge anchors and drain, as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor, No. 5502.
- ff. Variance between fence line(s) and property line(s), as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor No. 5502.

EXHIBIT F

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EXHIBIT F

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AUDIOTAPE TRANSCRIBED

BY SONYA B. BRITT, CSR

12

13

THE SAN JACINTO RIVER WASTE PIT SITE

INTERVIEW TAKEN ON

14

NOVEMBER 14, 2005

BY BARBARA ALDRIDGE

15

OF

CAPTAIN JACK ROBERTS

16

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18

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20

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22

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24

25

ORIGINAL

9076103



1 (Beginning of audiotape.)

2 MS. ALDRIDGE: Okay. And you're aware that
3 we're taping, so you don't mind that we're taping, right?

4 CAPTAIN ROBERTS: Not at all.

5 MS. ALDRIDGE: Okay. This is Barbara
6 Aldridge with the EPA and I'm in Pearland, Texas,
7 interviewing Captain Jack Roberts and this is concerning
8 the San Jacinto River waste pit site, and today is November
9 14th, 2005. And I'm going to ask Captain Jack, would you
10 please identify yourself and your current address, please.

11 CAPTAIN ROBERTS: Okay. My name is Jack
12 Roberts and I live at (b) (6) (b) (6) Texas
13 77581.

14 MS. ALDRIDGE: Okay. We're looking at an
15 aerial photograph of the area that we're calling the
16 San Jacinto River waste pit site and --

17 CAPTAIN ROBERTS: Well, I -- I think that if
18 we can identify that, I think that we're discussing the
19 Magen's waste site --

20 MS. ALDRIDGE: Right.

21 CAPTAIN ROBERTS: -- not my -- my property --

22 MS. ALDRIDGE: Uh-huh.

23 CAPTAIN ROBERTS: -- just the Magen's
24 property.

25 MS. ALDRIDGE: Right. And we're calling it

1 -- the EPA's name for it and the State of Texas name for it
2 is the San Jacinto River Waste Pit Site.

3 CAPTAIN ROBERTS: Okay.

4 MS. ALDRIDGE: Yes, it does comprise of
5 twenty acres that we'll call the Magenis property.

6 CAPTAIN ROBERTS: Yes.

7 MS. ALDRIDGE: Okay. I just want to make
8 clear that we're talking about the same piece of land here.
9 Okay. What is your connection with the Magenis property?

10 CAPTAIN ROBERTS: I have no connection with
11 the Magenis property except my land adjoins it.

12 MS. ALDRIDGE: Okay. You have -- your land
13 adjoins it?

14 CAPTAIN ROBERTS: Yes. On the north and west
15 side --

16 MS. ALDRIDGE: Okay.

17 CAPTAIN ROBERTS: -- and the San Jacinto
18 River is on the east side and the feeder road is on the
19 south side.

20 MS. ALDRIDGE: Okay. And what year was it
21 that you obtained your property and came to be the neighbor
22 of this property?

23 CAPTAIN ROBERTS: About 1972.

24 MS. ALDRIDGE: Okay. At that time what was
25 your understanding of the use of the Magenis property?

1 CAPTAIN ROBERTS: I had no idea what it was
2 being used for at that time when I bought it.

3 MS. ALDRIDGE: Okay. And when did you become
4 to be aware that there was anything going on with the
5 Magenis property?

6 CAPTAIN ROBERTS: Hell, I saw barges coming
7 in and out periodically underneath the bridge and -- and I
8 -- as a marine surveyor, because that's what my vocation
9 was before I retired, I was told by the Home Insurance
10 Company to survey a barge that the -- a Pasadena plant and
11 Champion Paper, which was Champion Paper then and it -- the
12 barge had sunk over the weekend to represent them as a --
13 as a surveyor on handling the loss.

14 MS. ALDRIDGE: Uh-huh.

15 CAPTAIN ROBERTS: And then later on I was
16 called by the Home Insurance Company, I believe it was
17 Home, to -- to handle the barge that had broken loose from
18 this property and hit the I-10 bridge.

19 MS. ALDRIDGE: Okay. So when you said barges
20 were coming, what direction were they coming from?

21 CAPTAIN ROBERTS: Well, they were coming from
22 the south -- from -- this is the San Jacinto -- or the
23 Houston ship channel over here --

24 MS. ALDRIDGE: Uh-huh.

25 CAPTAIN ROBERTS: -- and this is north.

1 MS. ALDRIDGE: Uh-huh.

2 CAPTAIN ROBERTS: The direction they were
3 coming, they would come from Pasadena down the Houston ship
4 channel to the San Jacinto River up to Lynchburg underneath
5 the bridge and tie up and bunk in at this area there.

6 MS. ALDRIDGE: Okay.

7 CAPTAIN ROBERTS: Actually, I thought it was
8 a spoil pit they were bumping into.

9 MS. ALDRIDGE: Uh-huh. And what year was
10 that when you were --

11 CAPTAIN ROBERTS: I --

12 MS. ALDRIDGE: -- at the job as --

13 CAPTAIN ROBERTS: -- I've gone -- Barbara,
14 I've gone through my files. I've moved my office three
15 times since that time. I don't have any records at all on
16 it.

17 MS. ALDRIDGE: Uh-huh.

18 CAPTAIN ROBERTS: I'd have to go back and
19 talk with friends who had shifted the barges around and I
20 don't -- I don't have any idea, but I know it was a long
21 time ago.

22 MS. ALDRIDGE: Okay. Can you take a -- just
23 a guess? In the '70s? In the '80s?

24 CAPTAIN ROBERTS: Oh, I would say the late
25 '70s, yes.

1 MS. ALDRIDGE: In the late '70s. Okay.

2 Okay. So we've talked about Magenis property. The
3 company's name was Magenis Industrial Maintenance
4 Corporation?

5 CAPTAIN ROBERTS: Yes.

6 MS. ALDRIDGE: Can you tell us anything about
7 this company?

8 CAPTAIN ROBERTS: Well, I -- (coughs) excuse
9 me. I knew Virgil Magenis had owned the company and he
10 belonged to the country club here where I live and he had
11 his office in Pearland. He later bought the Bail Bottom
12 Foundation (phonetic).

13 MS. ALDRIDGE: Uh-huh.

14 MS. RUSSELL: Virgil died some years back and
15 that's all I ever knew about him. I had seen him at social
16 events at the country club, but --

17 MS. ALDRIDGE: Uh-huh.

18 CAPTAIN ROBERTS: -- but I never met him
19 professionally in any place.

20 MS. ALDRIDGE: Uh-huh. Okay. So your only
21 familiarization with the Magenis -- oops -- with the
22 Magenis company is that because this property was next to
23 your property?

24 CAPTAIN ROBERTS: That's correct.

25 MS. ALDRIDGE: Okay. Okay. Besides Virgil

1 Mageniz, do you know any of the other names of the people
2 that were involved with that company?

3 CAPTAIN ROBERTS: There was a fellow, his
4 name is Roland. He's Virgil -- Virgil Mageniz's nephew.

5 MS. ALDRIDGE: Uh-huh. Do you know if he's
6 still around?

7 CAPTAIN ROBERTS: I have no idea.

8 MS. ALDRIDGE: Okay.

9 CAPTAIN ROBERTS: His name is in my --

10 MS. ALDRIDGE: Oh, in your letter to...

11 CAPTAIN ROBERTS: Ro- -- Roland Mageniz is
12 his name.

13 MS. ALDRIDGE: Uh-huh.

14 CAPTAIN ROBERTS: That's Virgil Mageniz's
15 nephew --

16 MS. ALDRIDGE: Uh-huh.

17 CAPTAIN ROBERTS: -- but I just said in my
18 letter that Virgil passed away several years back.

19 MS. ALDRIDGE: Uh-huh. Okay. And we're
20 referring to your June 2nd, 2005 letter to Marshall Cedilot
21 at TCEQ.

22 CAPTAIN ROBERTS: I sent it to Bill Warden at
23 Harris County and I sent it to Catherine Sherman at TCEQ's
24 office in Houston.

25 MS. ALDRIDGE: Right. Okay. So besides

1 Roland and Virgil, can you think of any other names --

2 CAPTAIN ROBERTS: No, I --

3 MS. ALDRIDGE: -- that were involved with the
4 company Magenis?

5 CAPTAIN ROBERTS: -- I never met anyone. I
6 was just looking through my file here and here's a letter
7 that -- from Texas Water & Pollution I guess which is now
8 TCEQ --

9 MS. ALDRIDGE: Right.

10 CAPTAIN ROBERTS: -- dated July the 29th of
11 1956. I sent this to them.

12 MS. ALDRIDGE: No, that looks like '66.

13 CAPTAIN ROBERTS: 1966.

14 MS. ALDRIDGE: Right. Uh-huh.

15 CAPTAIN ROBERTS: So they were -- they were
16 in operation at this site at that time.

17 MS. ALDRIDGE: Right.

18 CAPTAIN ROBERTS: And they were getting ready
19 to close -- obviously, they were getting ready to close us
20 down because he later moved his operation to a place in
21 Galveston Bay down -- West Galveston Bay.

22 MS. ALDRIDGE: Uh-huh. So at one point you
23 believe he quit using this site here?

24 CAPTAIN ROBERTS: Yes, I think that was
25 probably about the time that he -- he wrote this letter and

1 he was trying to drain the --

2 MS. ALDRIDGE: Uh-huh.

3 CAPTAIN ROBERTS: -- the --- the pit --

4 MS. ALDRIDGE: Uh-huh.

5 CAPTAIN ROBERTS: -- out, so he could abandon
6 the pit or sell the property.

7 MS. ALDRIDGE: Uh-huh. So like in the late
8 '60s?

9 CAPTAIN ROBERTS: Yeah, '66.

10 MS. ALDRIDGE: Uh-huh.

11 CAPTAIN ROBERTS: He calls it a holding pond.

12 MS. ALDRIDGE: Uh-huh. All right. Okay. So
13 as far as you know, when did Magenis cease to operate at
14 this site or cease to bring the barges --

15 CAPTAIN ROBERTS: I -- I don't -- I don't
16 recall.

17 MS. ALDRIDGE: You don't recall?

18 CAPTAIN ROBERTS: Huh-uh.

19 MS. ALDRIDGE: When did you become aware that
20 this property next to yours was abandoned or no longer in
21 use?

22 CAPTAIN ROBERTS: All I know -- you know,
23 being in and out of there periodically that it wasn't being
24 used for anything. In my aerial photographs I had taken
25 periodically, I didn't see any activity going on.

1 MS. ALDRIDGE: Uh-huh. Okay. Okay. In your
2 letter to TCEQ, you mentioned that the Magenis property was
3 acquired for the purpose of storage of waste slough from
4 Champion Paper in Pasadena. What's the source of that?

5 CAPTAIN ROBERTS: Just having gone to
6 Pasadena and handled the loss that was there and view there
7 -- they had an ogger (phonetic) that was being used to pull
8 the scrap paper out --

9 MS. ALDRIDGE: Uh-huh.

10 CAPTAIN ROBERTS: -- and to load it into the
11 barge with -- with oggers.

12 MS. ALDRIDGE: Uh-huh. So do you know who
13 acquired the property and -- and when?

14 CAPTAIN ROBERTS: After Magenis?

15 MS. ALDRIDGE: Uh-huh.

16 CAPTAIN ROBERTS: No, I didn't know this
17 until I think someone, during my correspondence, said Waste
18 Management --

19 MS. ALDRIDGE: Uh-huh.

20 CAPTAIN ROBERTS: -- in fact, I talked to
21 Magenis when this came about. I was a little concerned
22 about my property because they said there might be some
23 contamination on my property.

24 MS. ALDRIDGE: Uh-huh.

25 CAPTAIN ROBERTS: And so I called Magenis and

1 the lady referred me to her attorney.

2 MS. ALDRIDGE: Uh-huh.

3 CAPTAIN ROBERTS: And he said that they no --
4 just very abruptly said that they no longer owned that
5 property and this was in the last year or so.

6 MS. ALDRIDGE: Oh, okay. So as far as, say,
7 Champion Paper and the barges, what kind of route -- if
8 there was a barge coming from the paper facility, would it
9 come this route, too?

10 CAPTAIN ROBERTS: Yes. That's --

11 MS. ALDRIDGE: This part of the river?

12 CAPTAIN ROBERTS: So as far as I know, that's
13 the only the place you got any -- any product from.

14 MS. ALDRIDGE: Uh-huh. And how far away is,
15 say by water, is the Champion facility?

16 CAPTAIN ROBERTS: Probably seven miles.

17 MS. ALDRIDGE: Okay. So they would have come
18 up the ship channel this way?

19 CAPTAIN ROBERTS: Down the ship channel.

20 MS. ALDRIDGE: Down.

21 CAPTAIN ROBERTS: Down the south, down this
22 ship channel to the San Jacinto River --

23 MS. ALDRIDGE: Uh-huh.

24 CAPTAIN ROBERTS: -- and made a left turn at
25 the fork -- at the fork --

1 MS. ALDRIDGE: Oh, okay.

2 CAPTAIN ROBERTS: -- and come up -- the
3 San Jacinto River is down here, down to the south.

4 MS. ALDRIDGE: Uh-huh.

5 CAPTAIN ROBERTS: Lynchburg Ferry comes
6 across here and the San Jacinto Monument is over here --

7 MS. ALDRIDGE: Uh-huh.

8 CAPTAIN ROBERTS: -- underneath the bridge.

9 MS. ALDRIDGE: We can probably see this a
10 little better.

11 CAPTAIN ROBERTS: Okay. Well, that's --
12 okay. This -- the San Jacinto River is right here. This
13 doesn't --

14 MS. ALDRIDGE: Uh-huh.

15 CAPTAIN ROBERTS: -- show the Houston ship
16 channel.

17 MS. ALDRIDGE: Oh, okay. That's down here?

18 CAPTAIN ROBERTS: Uh-huh.

19 MS. ALDRIDGE: Okay.

20 CAPTAIN ROBERTS: To the south.

21 MS. ALDRIDGE: Uh-huh. So it would come out
22 the Houston ship channel and then head up the river?

23 CAPTAIN ROBERTS: Head up the river and went
24 underneath the bridge and tied it up to -- on the port side
25 of...

1 MS. ALDRIDGE: Okay. So when you say, "Waste
2 Management," you mean Waste Management incorporated the
3 company, right?

4 CAPTAIN ROBERTS: Magen is -- no --

5 MS. ALDRIDGE: The Magen is --

6 CAPTAIN ROBERTS: -- Waste --

7 MS. ALDRIDGE: -- property being acquired
8 by --

9 CAPTAIN ROBERTS: I assumed it to be acquired
10 based on what they told me.

11 MS. ALDRIDGE: Okay. All right. Back to the
12 accidents you mentioned in your letter that you witnessed.
13 Okay. You witnessed two accidents or respected the under-
14 -- the insurance underwriters on two accidents?

15 CAPTAIN ROBERTS: Yes.

16 MS. ALDRIDGE: Can you tell me little bit
17 more about those?

18 CAPTAIN ROBERTS: Well, the first one
19 occurred -- I don't remember exactly when, but it
20 occurred -- they had a barge -- they -- what they were
21 doing, they were bringing the barge in to Champion Paper
22 which is over on the south side of the Houston ship channel
23 in Pasadena right at the Pasadena underpass.

24 MS. ALDRIDGE: Uh-huh.

25 CAPTAIN ROBERTS: And they docking the barge

1 there and then they had a ogger set up at the -- this slot
2 material paper, I guess, waste material, we call it waste,
3 whatever it was, would come out and they would bring it by
4 a belt and ogger up. Put the ogger out over the top of the
5 barge and then just let it proceed along.

6 One -- one weekend, apparently, somebody just
7 left the ogger running and left the barge there --

8 MS. ALDRIDGE: Uh-huh.

9 CAPTAIN ROBERTS: -- thinking that it would
10 automatically --

11 MS. ALDRIDGE: Uh-huh.

12 CAPTAIN ROBERTS: -- you know, fill itself
13 up. Well, it did. It filled itself up and it sank
14 and -- and that's when the in- -- the Home Insurance
15 Company called me.

16 MS. ALDRIDGE: Uh-huh.

17 CAPTAIN ROBERTS: And the second occasion was
18 some years after that when they tied the barge up on the
19 Magenis property and it had strong winds and high tides and
20 it washed it off and hit the bridge.

21 MS. ALDRIDGE: Uh-huh. So it was tied up
22 here on the Magenis property --

23 CAPTAIN ROBERTS: Yes --

24 MS. ALDRIDGE: -- on --

25 CAPTAIN ROBERTS: -- on the property over on

1 this side, on the north side.

2 MS. ALDRIDGE: Okay. Kind of on the
3 northeast side of it?

4 CAPTAIN ROBERTS: Uh-huh.

5 MS. ALDRIDGE: And then it hit the bridge
6 down here somewhere?

7 CAPTAIN ROBERTS: Down here right on that
8 corner.

9 MS. ALDRIDGE: Uh-huh.

10 CAPTAIN ROBERTS: I'm sure the State has
11 records of when this happened because they -- the barge
12 stayed there for three or four days.

13 MS. ALDRIDGE: Uh-huh.

14 CAPTAIN ROBERTS: They couldn't get a tug in
15 there to get it off.

16 MS. ALDRIDGE: Uh-huh. Okay. So when you're
17 a marine surveyor, do you have to be licensed or certified
18 to do that --

19 CAPTAIN ROBERTS: No, there is --

20 MS. ALDRIDGE: -- at all?

21 CAPTAIN ROBERTS: -- no license in the State
22 of Texas for a marine surveyor.

23 MS. ALDRIDGE: Okay. But was that something
24 you commonly would do is...

25 CAPTAIN ROBERTS: I've been doing this since

1 1955, yes.

2 MS. ALDRIDGE: Uh-huh. And then are you also
3 licensed or certified captain?

4 CAPTAIN ROBERTS: Yes, I am.

5 MS. ALDRIDGE: So you've been around this
6 area a long time?

7 CAPTAIN ROBERTS: Well, I've been in and out
8 of the Port of Houston since 1944.

9 MS. ALDRIDGE: Uh-huh.

10 CAPTAIN ROBERTS: And I've been a resident of
11 Houston since 1955.

12 MS. ALDRIDGE: Okay. So you have lots of
13 good, local knowledge. Okay. And then the name of the
14 insurance companies that you represented, you mentioned
15 Home --

16 CAPTAIN ROBERTS: The Home Insurance.

17 MS. ALDRIDGE: -- Insurance. Was that the
18 only one?

19 CAPTAIN ROBERTS: Yes.

20 MS. ALDRIDGE: Okay. Okay. We talked about
21 the accidents and -- okay. Okay. The other thing I want
22 to reference in your letter that you mention that you
23 personally witnessed the barges being loaded and
24 discharged. So is that correct in that you witnessed
25 barges at the paper facility being loaded with material

1 from there and then witnessed the same barge or barges --

2 CAPTAIN ROBERTS: Being dis- --

3 MS. ALDRIDGE: -- at the Magenis --

4 CAPTAIN ROBERTS: -- discharged at the
5 Magenis property.

6 MS. ALDRIDGE: Okay. Can you -- do you have
7 any dates on that --

8 CAPTAIN ROBERTS: No.

9 MS. ALDRIDGE: -- approximate dates? In the
10 '70s? In the '80s?

11 CAPTAIN ROBERTS: Well, I would say probably
12 based on the letters that -- water control board's letter
13 maybe it was prior to that.

14 MS. ALDRIDGE: Uh-huh.

15 CAPTAIN ROBERTS: Because they had been
16 operating at that time and now they're getting ready to
17 shut this operation down. So based upon that, looking back
18 on it, it would have probably been in the mid-60s that
19 those accidents happened.

20 MS. ALDRIDGE: Uh-huh.

21 CAPTAIN ROBERTS: You know, I get that
22 reference from -- I would say --

23 MS. ALDRIDGE: Uh-huh. Okay. But -- but
24 witnessing the barges themselves would that have been in
25 that same time period or --

1 CAPTAIN ROBERTS: Yes. Well, it would have
2 been prior -- prior to him asking to abandon the property
3 in '66.

4 MS. ALDRIDGE: Okay.

5 CAPTAIN ROBERTS: That's why I said probably,
6 I was in the -- in the date -- in the time frame.

7 MS. ALDRIDGE: Uh-huh.

8 CAPTAIN ROBERTS: Because judging from that
9 letter, he had been in operation in the '60s.

10 MS. ALDRIDGE: Right. Okay. But the letter
11 here from '66 is where the State was giving him permission
12 to release some water --

13 CAPTAIN ROBERTS: Uh-huh.

14 MS. ALDRIDGE: -- so --

15 CAPTAIN ROBERTS: Which is if -- if -- what
16 your contention is that it contaminated at that time and
17 that would have been contaminated water. It wasn't just
18 plain water.

19 MS. ALDRIDGE: Uh-huh.

20 CAPTAIN ROBERTS: I -- I can't imagine why it
21 -- of course, we didn't have the restrictions that we have
22 now --

23 MS. ALDRIDGE: Right.

24 CAPTAIN ROBERTS: -- modern times and people
25 were -- (inaudible) -- worked out.

1 MS. ALDRIDGE: Uh-huh. Well, the -- Marshall
2 is doing some more research to see if he can find any more
3 files back during this time period with the State, but I --
4 I don't know what he's come up with, so --

5 CAPTAIN ROBERTS: Well, I'm -- I'm reasonably
6 certain that the -- the Maintenance Department, the Texas
7 Highway Department, they keep track of what goes on with
8 that bridge.

9 MS. ALDRIDGE: Uh-huh. Okay. But I mean, as
10 far as witnessing a barge being loaded by the paper company
11 and being unloaded here, was that also -- have been in the
12 late '60s, or -- so you --

13 CAPTAIN ROBERTS: Probably the mid-60s based
14 upon that letter.

15 MS. ALDRIDGE: Okay. But you said you
16 acquired the site, the property next to the Magen's
17 property --

18 CAPTAIN ROBERTS: In the '72.

19 MS. ALDRIDGE: -- in '72?

20 CAPTAIN ROBERTS: Right.

21 MS. ALDRIDGE: So just in your capacity as --

22 CAPTAIN ROBERTS: As a marine surveyor --

23 MS. ALDRIDGE: -- a marine surveyor and
24 captain, you just were familiar with this whole area, not
25 necessarily because you were in the --

1 CAPTAIN ROBERTS: No. No. I -- there's
2 several shipyards in this area south of the San Jacinto
3 bridge --

4 MS. ALDRIDGE: Uh-huh.

5 CAPTAIN ROBERTS: -- the southwestern barge
6 fleet company and there's a channel shipyard over here.

7 MS. ALDRIDGE: Uh-huh.

8 CAPTAIN ROBERTS: As a marine surveyor, I was
9 in the area of periodically maybe once a week, maybe twice
10 a week --

11 MS. ALDRIDGE: Uh-huh.

12 CAPTAIN ROBERTS: -- going into the shipyards
13 and inspect barges and tugs and...

14 MS. ALDRIDGE: Uh-huh. Okay. So you also
15 mention here in your letter that as a marine surveyor, you
16 represented insurance companies and inspected barges,
17 numbered One, Two, Three and Four as well as the tugs,
18 Kingfish and Cyclops --

19 CAPTAIN ROBERTS: Yes.

20 MS. ALDRIDGE: -- that pushed the tugs from
21 Pasadena to the San Jacinto River site. So when you say
22 that, are you talking about pushing the tugs from the
23 papers facility to --

24 CAPTAIN ROBERTS: To the Magenis property.

25 MS. ALDRIDGE: -- to our Magenis --

1 CAPTAIN ROBERTS: -- and returning.

2 MS. ALDRIDGE: Okay. And -- but you don't
3 remember exactly what year that was?

4 CAPTAIN ROBERTS: Like I say, you just have
5 to go back to -- back to that letter and say it was -- was
6 prior to '66.

7 MS. ALDRIDGE: Uh-huh. Okay. But you could
8 identify -- you definitely saw the same numbered or the
9 same named barge or tug at one end and you saw it like the
10 same day --

11 CAPTAIN ROBERTS: Yes.

12 MS. ALDRIDGE: -- or how long would that take
13 to take it from Pasadena to --

14 CAPTAIN ROBERTS: About six hours. Three to
15 six hours depending on the traffic.

16 MS. ALDRIDGE: Uh-huh. Okay. So was there a
17 time -- ever a time that you witnessed that on the same
18 day?

19 CAPTAIN ROBERTS: Well, it could have been.

20 MS. ALDRIDGE: Within a few days or -- I
21 mean, how long would the whole process take from loading at
22 Pasadena to unloading here? Would that be something
23 that --

24 CAPTAIN ROBERTS: I have -- I have no idea as
25 to the time it took to -- to load it or the time it took to

1 discharge it.

2 MS. ALDRIDGE: Uh-huh.

3 CAPTAIN ROBERTS: I also mentioned that --
4 tell you that I represented the insurance company of
5 Champion Paper Company who had a barge that was peri- --
6 periodically stayed there. They used it for transporting
7 products, other products.

8 MS. ALDRIDGE: Okay. Periodically stayed
9 here at the Magenis?

10 CAPTAIN ROBERTS: No. At the Pasadena plant.

11 MS. ALDRIDGE: Pasadena.

12 CAPTAIN ROBERTS: Yeah. I was in and out of
13 Pasadena plant fairly often --

14 MS. ALDRIDGE: Uh-huh.

15 CAPTAIN ROBERTS: -- I'd say four to five
16 times a year --

17 MS. ALDRIDGE: Uh-huh.

18 CAPTAIN ROBERTS: -- either doing inspections
19 on the -- I think the barge's name was the WR Crew.

20 MS. ALDRIDGE: Okay. Now, is that Champion
21 Paper Company plant in Pasadena is now --

22 CAPTAIN ROBERTS: I don't know.

23 MS. ALDRIDGE: -- (inaudible) name --

24 (inaudible). It's International Paper -- Simpson Paper,
25 does that ring a bell?

1 CAPTAIN ROBERTS: Huh-uh.

2 MS. ALDRIDGE: Okay. But when people talk
3 about the Champion Paper Company in Pasadena --

4 CAPTAIN ROBERTS: It's still referred to on
5 the waterfront as the Champion Paper Company.

6 MS. ALDRIDGE: Okay. So that's pretty
7 well-known, everybody knows what you're talking about when
8 you say Champion Paper in Pasadena?

9 CAPTAIN ROBERTS: They know more the smell
10 than that.

11 MS. ALDRIDGE: Paper companies are famous for
12 that.

13 CAPTAIN ROBERTS: Yes.

14 MS. ALDRIDGE: Okay. We're about near the
15 end of the tape here. Okay. All right. You mentioned
16 that had you don't have any of your old records or anything
17 from this time.

18 CAPTAIN ROBERTS: I do not.

19 MS. ALDRIDGE: Okay. So you don't have any,
20 like, reports or anything that you would have made for the
21 insurance companies?

22 CAPTAIN ROBERTS: No, I do not.

23 MS. ALDRIDGE: Okay. So was Home Insurance
24 located in this area?

25 CAPTAIN ROBERTS: Well, they were -- they had

1 an office here. Their home office was in New York.

2 MS. ALDRIDGE: Uh-huh. Do you know if they
3 still exist around here?

4 CAPTAIN ROBERTS: You know, Barbara, I just
5 -- I just don't know.

6 MS. ALDRIDGE: I'll check that out.

7 CAPTAIN ROBERTS: I'm reasonably certain that
8 they -- I doubt very seriously they're still here. I -- I
9 know that -- none of the employees that I knew, Justin
10 Crane and those people were gone --

11 MS. ALDRIDGE: Uh-huh.

12 CAPTAIN ROBERTS: -- a long time ago.

13 MS. ALDRIDGE: Okay. Well, I think that's
14 about all the questions I have. Can you think of anything
15 else to add?

16 CAPTAIN ROBERTS: One of the -- one of the
17 interesting things during the conversation with everyone is
18 that everybody says they can't find out who -- who's paying
19 taxes on that property. That -- that's --

20 MS. ALDRIDGE: Nobody --

21 CAPTAIN ROBERTS: Nobody?

22 MS. ALDRIDGE: -- is paying taxes on that.
23 I'm going to go ahead and shut the tape off now.

24 (End of audiotape.)

25

1 STATE OF TEXAS)
2 COUNTY OF DALLAS)

3 THIS IS TO CERTIFY THAT I, SONYA B. BRITT, a
4 Certified Shorthand Reporter in and for the State of Texas,
5 reported in shorthand the audiotape as set forth in the
6 caption hereof, and that the above and foregoing 24 pages
7 contain a full, true, and correct transcript of said
8 audiotape to the best of my ability.

9 Certified to on this the 2nd day
10 of December, 2005.

11
12
13

Sonya B. Britt

14

SONYA B. BRITT,
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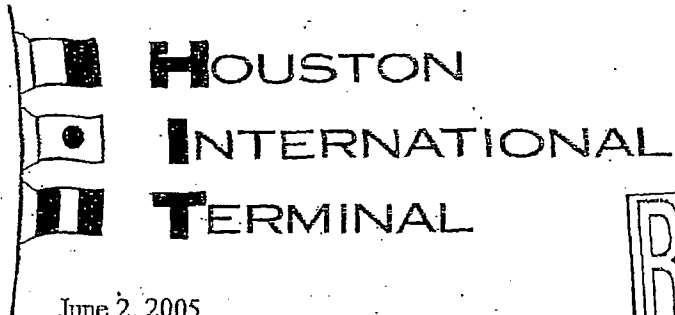
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77581 2:13

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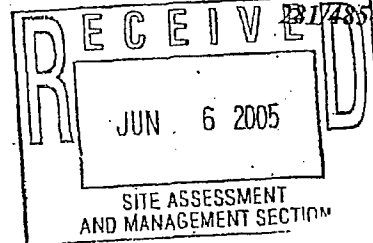
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EXHIBIT G

EXHIBIT G



2435 East Broadway
Pearland, Texas 77581
281/485-0535
281/485-0538 fax



Mr. Marshall Cedilote
TCEQ
P. O. Box 13087
Austin, Texas 78711-3087

Mr. Wm. Warden
Harris County E.E.
16635 Clay Road
Houston, Texas 77084

Ms. Catherine Sherman
5425 Polk Ave., Ste. H
Houston, Texas 77023-1486

Re: McGinnis Property & Otto Marine (O.M.E.)

This letter will confirm our several telephone conversations regarding O.M.E. and relating to our meeting (the writer, Mr. Warden and Ms. Sherman) in Houston on June 1, 2005.

Mr. Cedilote has suggested that I write a "fact" letter as to the knows and not knows of the situation.

The McGinnis property (now Waste Management) was acquired for the purpose of storage waste sludge from Champion Paper Co. in Pasadena, Texas. This was a built up base (@ 20 acres) on the northwest corner of San Jacinto River and I-10 Intersection (bridge).

I, acting as a Marine Surveyor, representing interested Insurance Companies, inspected the barges MIMC (McGinnis Industries Maintenance Corp.) number 1-2-3-4 as well as the tugs "Kingfish" and "Cyclops" which pushed the tows from Pasadena to the San Jacinto river site.

I have personally witnessed the barges being loaded and discharged. These are open type hopper barges. Sludge is pumped in and out.

Mr. Marshall Cedilote
Mr. Wm. Warden
Ms. Catherine Sherman
June 2, 2005
Page - 2 -

Acting as a Marine Surveyor, I represented the Underwriters on two(2) accidents namely:

(1) One barge sank in Pasadena loading dock due to being left unattended and loading continuing over a weekend.

(2) Barge, as advised by Roland McGinnis (Mr. Virgil McGinnis', now deceased, nephew) who was operating office for MIMC was intended to be scrapped - filled with water and partially sunk at the I-10 site. Due to high tide and strong winds the barge floated itself and struck the I-10 bridge - Rowland reported the intention to the writer and several others and believe his claim was denied.

Enclosed with this letter is a copy of Pollution Control Board's letter dated July 29, 1966 to MIMC.

H.I.T. has leased one(1) dock (barge), office space, warehouse space and sold O.M.E. twelve(12) storage tanks which are now in place.

Big Star Barge & Boat has leased a tank barge "Star Diamond" to O.M.E. (formally Petroleum Stripping) for the past years. At this time we can state that neither the rent or charter hire is current - past 14+ months due.

O.M.E. operations was conducted by Michael Otto Jr., his wife, Michael Otto III, Kevin Otto, Winfred Vetter (281/550-3649), and Steve Sawyer (trying to locate) since he apparently signed off on reports.

We were given a copy of Ms. Sherman's excellent report, and it outlines the vessel that O.M.E. discharged cargo off however there is not a mention of tugs he allowed to pump their bilges off - we know of one tug "Neta E", Echo Towing Co., Mr. Tom Echols, 281/426-5541/ It is obvious from Ms. Sherman's report that O.M.E. has for several years been operating in violation of no permit to handle products involved; not properly manifesting, etc. which had they been stopped at the time - we would not have the cargo in tanks.

O.M.E. has insurance coverage and a copy of that policy has been given to Mr. Warden. Insurance agent is Harold Hobbs (713/776-9363) who is also agent for H.I.T. and Big Star Barge.

A chemical analysis has been made on the cargo in the twelve(12) tanks and that analysis has been given to Mr. Warden and copies can be made available if needed.

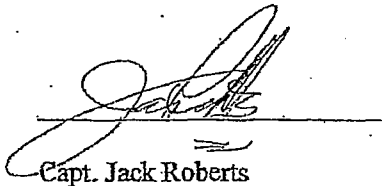
Mr. Marshall Cedilote
Mr. Wm. Warden
Ms. Catherine Sherman
June 2, 2005
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A this time H.I.T. would like to express our concerns since summer is coming and heat can cause fluids to expand and form pressure. H.I.T. does not have the funds to dispose of this cargo that had been generated by O>M.E. and respectfully request that priority be given to the situation. A spill would be a catastrophe to the area.

We have been cooperative with situation (have spent several thousand dollars, time etc) and in closing assure your agencies that we will continue in this effort.

Trusting that the information provided herein will assist in the conclusion.

With respects,



Capt. Jack Roberts

JR:hr

Enclosure



Afternoon 5 Aug 66

Texas Water Pollution Control Board

JOE G. MOORE, JR., CHAIRMAN
T. F. ANDERSON, VICE-CHAIRMAN
BEN RAMSEY
HOWARD V. ROSE

1100 WEST 49TH STREET
AUSTIN, TEXAS 78756

SAM E. WOHLFORD
J. E. PRAVY, M.D.
J. WELDON WATSON

July 29, 1966

Re: Holding Pond
Harris County, Texas

McGinnes Industrial Maintenance Corporation
201 North Richey
Pasadena, Texas 77502

Attention: Mr. V. C. McGinnes

Gentlemen:

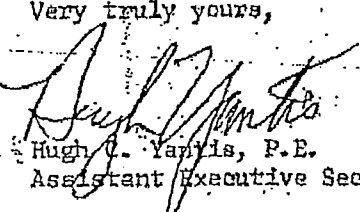
This is in response to your letter of July 21, 1966 whereby you have requested permission to release a combination of stabilized waste water and rain water from a holding pond adjacent to Old River and Interstate Highway 10.

Based on our observation of the area from the air, and on the analytical data submitted with your letter, this Board would not oppose the emptying of the ponds in any reasonable manner. It is our firm understanding that the pond will not be used again for the storage of waste material.

In view of the fact that those ponds are located in Harris County, you may wish to ascertain whether local county officials have any interest in your proposed waste discharge.

We trust the above is satisfactory to you, and if you have any questions, please let us know.

Very truly yours,


Hugh C. Yantis, P.E.
Assistant Executive Secretary

HCY:eb

ccs: Brown & Root
State Health Department
Region IV
Joe Resweber
Harris County Health Department
Local Health Services

33 004
000004

1d WST:10 5002 20 Jun. 02 2005 01:15PM PJ

FRX NO. : 2814850538

FROM: ROBERTS

EXHIBIT H-1

EXHIBIT H-1

NOV 30 1998



**HOUSTON
INTERNATIONAL
TERMINAL**

November 20, 1998

18001 - 1-10
CHANNELVIEW TEXAS
REPLY TO
2918 GREEN TEE DRIVE
PEARLAND, TEXAS 77581
713-485-2464
251

Department of the Army
Galveston District
Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Attention: Mr. John Davidson

Re: Permit No. 19284(02)

Dear Sir:

This letter will confirm my past telephone conversations and your personal conversations with Mr. D. Moore of Mega Sand at Houston International Terminal. At this time we would like to reiterate our position which is as follows:

The original permit was issued after much discussion during conferences and meetings with Parker Brothers. As you know Parker merged to form Parker LaFarge which set back our operations by at least a year. Only one(1) barge load was removed by Parker LaFarge.

Parker LaFarge sold out and the new owners closed down the dredging operations and sold off all of their floating equipment.

All of this was done after a mitigation plan was submitted and approved. We were into 1996, and no further dredging was performed during this period.

In late 1997 we entered into a working contract with Mega Sand (Dan & Brenda Moore) who agreed to the mitigation plan. In September 1997 dredging recommenced and work on the mitigation plan started. Work progressed, but has been halted on several occasions by floods and bad weather. In the case of floods, the most recent being November 13, 14, and 15, 1998, the flood waters and currents have caused the removal of some of the material deposited in the mitigation sites.

We will keep Ms. L. Shead advised of the progress, in order that she may advise the Galveston Bay Foundation.

Corps of Engineers

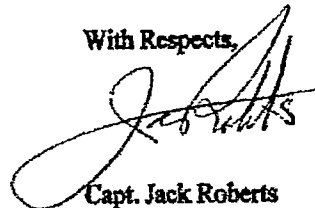
May 20, 1996

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We are writing at this time to assure the Corps and the Galveston Bay Foundation that our plans have not changed, and if weather permits will continue on course.

Thanking you for your continuing cooperation, we remain,

With Respects,



Capt. Jack Roberts

cc: Mega Sand
Encl Letter dated 7-30-96
To U.S. Corps / John Moran

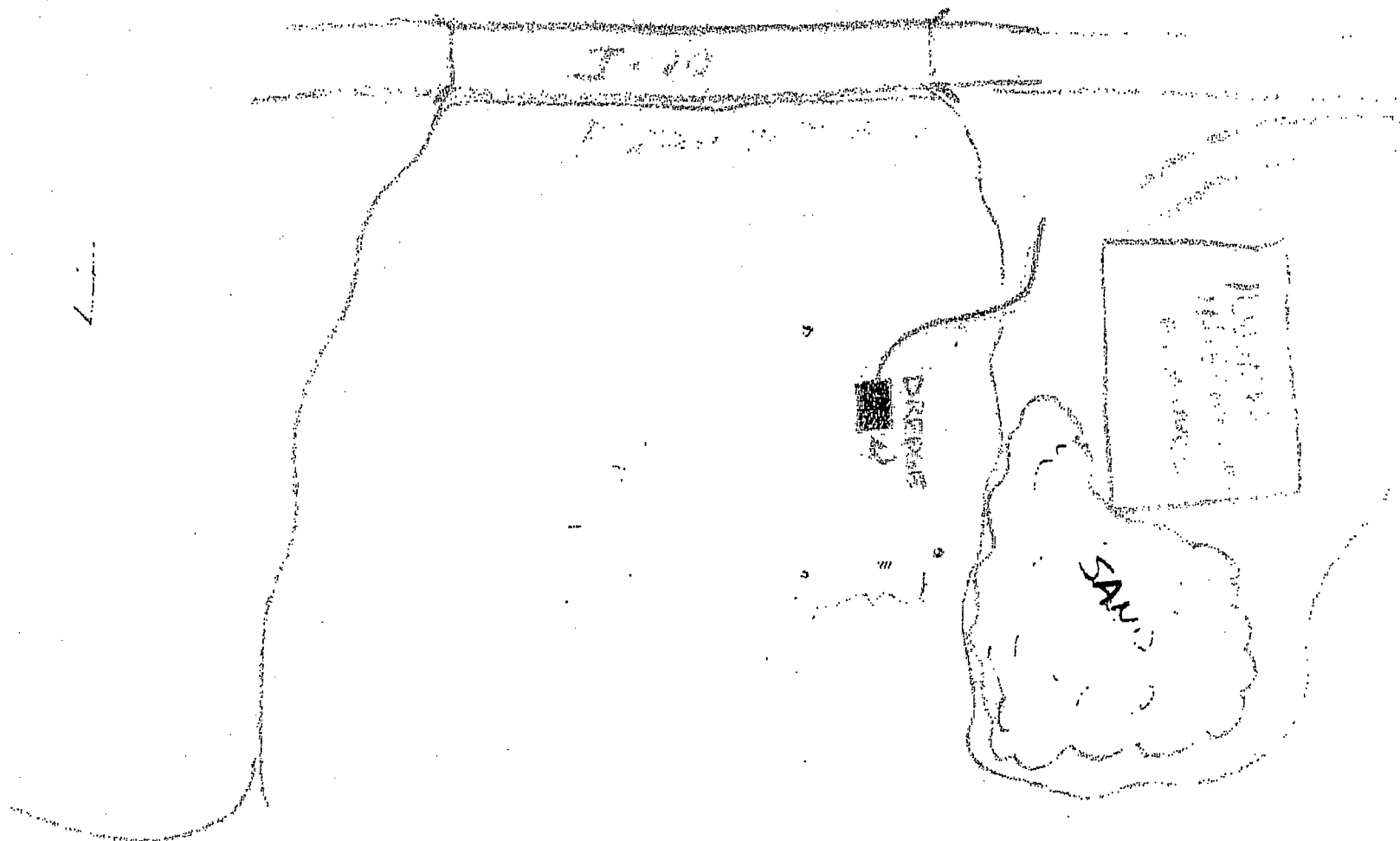
EXHIBIT H-2

EXHIBIT H-2

SITE INVESTIGATION SHEET

1. CASE I- 3931 RAMS NO. 199900554
2. ALLEGED RESPONSIBLE PARTY: Houston International Terminal/Mega Sand
POC: Captain Jack Roberts/Dan Moore
29118 Greeting Tee Drive/Unknown
Pearland, Texas 77581
281-485/2464 / 281-862-0808
3. PROJECT LOCATION:
Waterway: San Jacinto River (@ 1.10 northwest shoreline)
County: Harris
City (closest): Channelview
Quadrangle: Highlands, TX
UTM Coordinate Zone: 15
Easting: 300925 Northing: 3297800
4. REPORT ORIGIN:
Reported by: Dan Keys (Corps)
Telephone ext. 3191
Date Reported: 9 April 1999
Investigation Date: 26 May 1999 (x Field Office)
Investigated by: Andrea Albertson/Tom Pfeffer
5. AUTHORITY: A.10 B.404 x C.10&404 D.N/A
6. SUMMARY OF INVESTIGATION: A 26 May 1999 site visit revealed a dredge spudded down in the San Jacinto River; the dredge was inactive but with pipe extending to the shoreline at Houston International Terminals. All observations correspond to the permitted activity authorized by DOA permit 19284 (and amendments) and investigated by John Davidson (PE-RC), Case I-3692. DOA permit 19284 authorized HIT to dredge sand for commercial sale and to provide a barge berthing area in the San Jacinto River. The permit also required the creation of 9 acres of wetlands to compensate for the impacts. The permit is valid until December 31, 1999 (per 19284(01) amendment). Refer to DOA 19284 and Case I-3692 for a copies of the permitted activity.
7. FINAL DISPOSITION (if applicable): The project is authorized by DOA permit 19284. Therefore, the case is closed accordingly.
8. DATE CASE CLOSED: 26 May 1999

Signed: Andrea Albertson
Andrea Albertson



UNAUTHORIZED ACTIVITY REPORT FORM

REPORTED BY: Dan Keys (OC) DATE: 4/9/99 TIME: _____

METHOD: Office Visit

RESPONSIBLE PARTY: Unknown

TELEPHONE NO.: _____ SECTION: 404 10 404/10 103 (circle)

LOCATION: San Jac River at T-10 (northside)

DESCRIPTION: near Channelview

Dredging in River at night. Likely doesn't have permit

WILL REPORT BE FOLLOWED UP WITH LETTER? YES NO (circle one)

REPORT TAKEN BY: Paula Parker-Urie

ACTIVITY ASSIGNED TO: Audrea Albertson

SAC Form 467
23 Jan 78

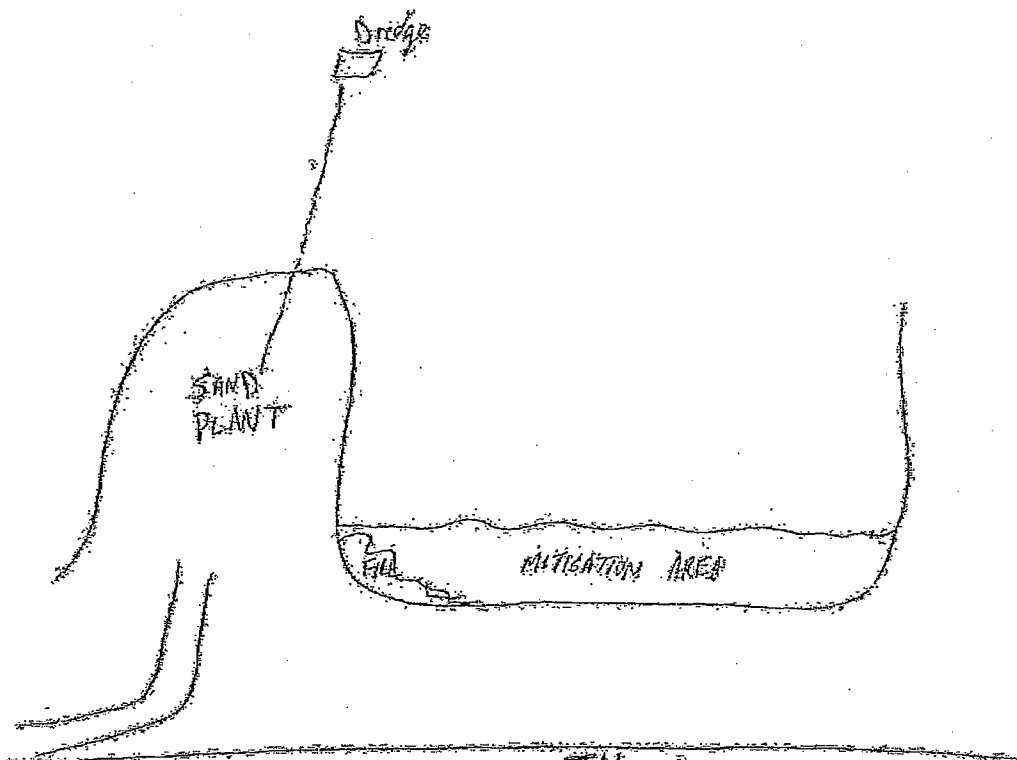
Near Captain Wick's property (see previous violation)

SITE INVESTIGATION SHEET

1. **CASE I- 3692** **RAMS NO. 199800388**
2. **RESPONSIBLE PARTY(S):** Houston International Terminal/Mega Sand
Point of Contact: Captain Jack Roberts/Dan Moore
Address (mailing): 29118 Green Tee Drive/Unknown
Pearland Texas 77581
(City) (State) (Zip)
Telephone: (281) 485-2464/(281) 862-0808
3. **PROJECT LOCATION:**
Waterway: San Jacinto River
County: Harris
City (closest): Channelview
Quadrangle: Highlands, Tex
UTM Coordinate Zone: 18
Easting: 300923 Northing: 3297800
4. **REPORT ORIGIN:**
Reported by: Individual
Telephone: _____
Date Reported: 20 March 1998
Investigation Date: 27 April 1998 (☒ Field ☐ Office)
Investigated by: John Davidson
5. **AUTHORITY:**
__ A.10 __ B.404 ☒ C.10&404 __ D.N/A
6. **SUMMARY OF INVESTIGATION:** Department of the Army permit 19284 and subsequent amendments authorized Houston International Terminal to dredge sand for commercial sale and to provide a barge berthing area in the San Jacinto River. The permit also required the creation of 9 acres of wetlands to compensate for the impacts. The sand mining is authorized and the alleged fill in the San Jacinto River was the initiation of the mitigation (wetland creation). We did not find any evidence of fill in wetlands as the project site is uplands where the sand processor is located and open water elsewhere. There was not a violation of Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. Case I-3692 is closed.
7. **FINAL DISPOSITION (if applicable):**
8. **DATE CASE CLOSED:** 6 November 1998

SITE INVESTIGATION SHEET (Cont.)

9. Drawings (with north arrow, waterbody, dimensions, etc. if appropriate)



NOTE: (Attachments to be included)

USGS Quad with approximate project location identified
Photographs (labeled with project manager, direction, etc.)

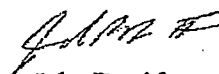
Signed: John Davidson
John Davidson

6 November 1998

MEMORANDUM FOR THE FILE

SUBJECT: I-3692; Mega Sand and Houston International Terminal, Alleged Unauthorized Dredging, Fill in Wetlands and Fill in the San Jacinto River, Harris County, Texas

1. An individual reported, by telephone on 20 March 1998, that someone was mining sand from the San Jacinto River. The reporter also stated the alleged violator was filling wetlands and the San Jacinto River. The project site is located north of Interstate Highway 10, approximately 0.5 mile west of Crosby-Lynchburg Road, in Channelview, Harris County, Texas.
2. A site visit was conducted on 27 April 1998. I met Mr. Dan Moore, owner of Mega Sand, at the site visit. Department of the Army Permit 19284 and subsequent amendments authorized Houston International Terminal to dredge sand for commercial sale and to provide a barge berthing area in the San Jacinto River at the project site specified above. The permit also required the creation of 9 acres of wetlands to compensate for project impacts. The sand dredging is authorized by the permit and is not in violation. The alleged fill in the river is actually the initiation of the mitigation (wetland creation) required by the permit and is not in violation. Additionally, we did not find any evidence of fill material in wetlands, as the project site is an upland where the sand processor is located and open water elsewhere. The activities located in the San Jacinto River are authorized by Permit 19284. There was not a violation of Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. Therefore, Case I-3692 is closed.



John Davidson
Project Manager, North Unit
Enforcement Section

EXHIBIT H-3

EXHIBIT H-3

JAN 25 2000



12001 - 1-10
CHANNELVIEW, TEXAS
REPLY TO:
2910 GREEN ICE DRIVE
PEARLAND, TEXAS 77581
713/485-2454

7281

January 24, 2000

United States Corps of Engineers
Galveston, Texas

Attention: Mr. Bruce H. Bennett

VIA Fax 409/766-3931

Re: Permit #19284(2)

Dear Bruce,

It has been a long time since I have been in contact with you or the Corps and after talking to Ms. Tirpak today was pleased to hear that you are well. I have partially retired and as a result may have slipped my anchor concerning the above referenced permit.

Situation:

We received a permit in 1996 to dredge our property, construct a fish nursery with Galveston Bay Foundation and submitted a mitigation plan which was approved.

No work was performed in 1996 and it was late 1997 before operation commenced. Site was inspected by you, Mr. John Davidson and we were contacted by him and the entire operation laid out (See letter dated November 20, 1998, attached).

At this time we respectfully request that this permit be renewed, extended or whatever is required to allow Mega Sand to continue their operation.

UR Corps of Engineers

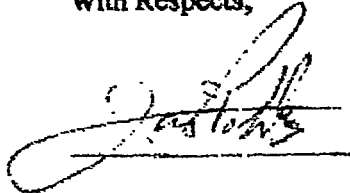
Page - 2 -

I was under the impression that permits for this type of operation was for five (5) years, but I understand ignorance is not an excuse. However the operation did not start until 9/97 and we suffered delays in 1998.

Upon receipt of this fax and after your review of our problems will you please contact me at 281/485-2464 or fax 281/485-0538.

Thanking you in advance for yours and the Corps usual prompt attention to this matter, remain,

With Respects,

A handwritten signature in dark ink, appearing to read "Jack Roberts", written over a horizontal line.

Capt. Jack Roberts

JR:hr

Attachments

EXHIBIT I

EXHIBIT I

MEGASAND ENTERPRISES, INC.

P.O. BOX 656
HIGHLANDS, TEXAS 77562
OFFICE: 281-843-3000
FAX: 281-843-2390

September 23, 2010

RECEIVED
10 SEP 27 AM 12:00
EPA REGION 6
DALLAS, TEXAS

CERTIFIED MAIL #7009 2230 0003 2430 8308

Mr. Robert Werner
Enforcement Officer
Superfund Enforcement Assessment Section (6SF-TE)
U.S. EPA, Region 6
1445 Ross Ave.
Dallas, TX 75202-2733

Re: San Jacinto River Waste Pits Superfund Site, Channelview, Texas
SSID No. 06ZQ; EPA ID No. TXN000606611

Dear Mr. Werner:

By letter dated August 24, 2010, the EPA sent MegaSand Enterprises, Inc. a CERCLA 104(e) information request regarding the above-referenced matter. Set forth below is the response of MegaSand Enterprises, Inc.

Question 1:

Identify the person(s) that provides answers to the questions below on behalf of MegaSand Enterprises, Inc. (MSEI).

Answer: Danny C. Moore and Brenda L. Moore

Question 2:

Has MSEI ever participated in any planning for dredging activities in the area of the San Jacinto River, along its south bank, on the north side of the I-10 Bridge in Harris County, Texas?



610638

Objection: MSEI objects to this question as unreasonably vague and overbroad. For purposes of this response, MSEI interprets this question to inquire whether the dredging activities were conducted south of the red delineated area on the aerial photo in Enclosure 5. The location of MSEI's dredging in the general area is discussed in the answer to Question 5.

Answer: No.

Question 3:

Has MSEI ever participated in any dredging activities in the area of the San Jacinto River, along its south bank, on the north side of the I-10 Bridge in Harris County, Texas?

Objection: MSEI objects to this question as unreasonably vague and overbroad. For purposes of this response, MSEI interprets this question to inquire whether the dredging activities were conducted south of the red delineated area on the aerial photo in Enclosure 5. The location of MSEI's dredging in the general area is discussed in the answer to Question 5.

Answer: No.

Question 5:

If your answer to the above questions #2 and #3 is no, please explain why a letter, dated November 20, 1998, for Houston International Terminal to Department of the Army, (see Exhibit 5) identifies that, "in late 1997 we entered into a working contract with Mega Sand (Dan & Brenda Moore) who agreed to the mitigation plan. In September 1997 dredging recommenced and work on the mitigation plan started."

Answer: On November 20, 1998, Captain Jack Roberts, owner of Houston International Terminal, had acquired a permit from the U.S. Army Corps of Engineers for the purpose of dredging sand on his property. His property was located west and north of the waste pit site as delineated on the aerial photo in Enclosure 5. During the permitting process the U.S. Army Corps of Engineers required Houston International Terminal to build a cordgrass marsh with overburden material from dredging operation. This was part of the mitigation plan asked for by the Corps of Engineers. MSEI, under an agreement with Houston International Terminal, dredged on the

north and west quadrant of the Roberts' property located west of the waste pits, north of the I-10 Bridge. MSEI, after performing dredging for Houston International Terminal, moved the clay (overburden) over to the mitigation site with dump trucks and dumped along the feeder road on the north side of I-10, west of the waste pits. MSEI used bull dozers to push and spread the clay into the water. After placement of the material, the Galveston Bay Foundation planted cordgrass along the edge of the water.

Question 6:

Please describe the corporate relationship between MegaSand, Inc., a dissolved Texas corporation and MSEI, an active Texas corporation.

Answer: There is no corporate relationship between MegaSand, Inc. and MSEI. MegaSand, Inc., formerly a Texas corporation, was dissolved in 1994. MSEI, a Texas corporation, was incorporated in 1997 and remains in good corporate standing with the Texas Secretary of State office. Brenda Moore served as the sole director and officer of MegaSand, Inc. and is a director and officer of MSEI.

Question 7:

Please identify the names of all dredging companies that you have reason to believe have, at any time, participated in the planning of, and/or participated in, dredging operations in the above-described area of the San Jacinto River.

Answer: None.

Very truly yours,



Danny C. Moore

EXHIBIT J

EXHIBIT J

Axe, Al

From: Axe, Al
Sent: Friday, December 10, 2010 5:16 PM
To: 'Barbara Nann(nann.barbara@epa.gov)
Cc: 'Cermak, John F.'; 'Inglin, Sonja A.
Subject: FW: San Jacinto Waste Pits Superfund Site - Access Issues
Attachments: Pages from San Jacinto NTCRA.pdf; Figure7_TEQ_Sediment_and_Soil.pdf; AUSTIN_1-#618754-v1-HIT_Application.PDF

Barbara,

This is in response to your December 6 email set out below regarding the TxDOT and Big Star access issues.

Respondents are still attempting to work out an agreement with TxDOT on access to build a road and will keep you informed of the status of our discussions.

With respect to Big Star, and its status as a PRP, you are correct that Big Star did not dredge the sand and sediment on the property adjacent to the waste pits. However, these activities were conducted on its property, with its apparent permission, under the authority of a USACOE permit issued to its affiliate, Houston International Terminal (HIT). The sand dredging operation involved the dredging of sand on Big Star property and the associated sand separation activities were also on Big Star property. The USACOE permit was issued to HIT on the basis of an application filed by HIT in which HIT represented that the dredging would occur on HIT's property when, in fact, the property was owned by Big Star. (Please see the attached application dated December 7, 1990). The attached January 27, 2002 satellite photo interpretation shows the sand separation operations on Big Star's property, the dredge cut line that impacted the waste pits, and the alluvial fine deposit resulting from the sand separation. This photo interpretation was provided to EPA by our consultant, Anchor QEA, at a meeting on August 11, 2009.

With all due respect, it does not appear that either the "contiguous property owner" or "federally permitted release" exemptions apply to Big Star.

A person that owns real property that is contiguous to, and that may be contaminated by a release from, real property that is not owned by that person, is not an "owner or operator" under CERCLA only if the person can satisfy each of the eight (8) requirements contained in Section 107(q)(1)(A) of CERCLA. Big Star cannot satisfy a number of the requirements, including the obligation to cooperate and provide access.

One of the eight requirements is that the person did not cause, contribute or consent to the release. By allowing the sand dredging and sand separation activities to be conducted on its property, Big Star arguably contributed to the release.

Another requirement is that the person not be affiliated with any other person that is potentially liable for response costs at a facility through any corporate relationship. As the permittee for the sand dredging operation, HIT is a potentially responsible party at the Site. HIT was the permittee based, in part, on its representation that it owned the property on which the dredging would occur when, in fact, the owner was Big Star. HIT is affiliated with Big Star, and appears to have the same ownership and officers, as reflected in Secretary of State documents. In fact, HIT and Big Star appear to have been treated as one and the same corporation by their principle, Captain Jack Roberts. Thus, Big Star, by virtue of its affiliation with HIT, does not satisfy this condition of the contiguous land owner defense.

Another condition to this defense is that the contiguous land owner take reasonable steps to stop any continuing release, prevent any threatened future release, and prevent or limit human, environmental or natural resource exposure to any hazardous substance released on or from property owned by that person. The attached document entitled "Projected Surface Concentrations of Dioxin - Based on Sediment Data from TCEQ (August 2005)" shows a "hot spot" of contamination (Sample No. 11) on the shoreline of Big Star's property where the finer grain materials from the sand separation activities were deposited. This document (which was also provided to EPA at the August 11, 2009 meeting) shows a release from the hot spot into the San Jacinto River with the dioxin concentrations becoming lower as the distance from the hot spot increases. To our knowledge, Big Star has not taken reasonable steps to stop this release. Moreover, it has taken us months to get permission from Big Star to access its property to construct a fence to prevent

human contact to hazardous substances on its property.

Finally, and most importantly, to qualify for the adjacent landowner defense, the owner must provide "full cooperation, assistance, and access to persons that are authorized to conduct response actions at the facility from which there has been a release or threatened release. Big Star was cooperative early in the RI/FS process in allowing our contractors access to conduct sampling on Big Star property. However, Big Star is now being uncooperative in providing the access needed to perform the TCRA.

With respect to the "federally permitted release" defense, the releases that have occurred at the Site have not been in compliance with any federal permit. The USACOE permit did not authorize a release of hazardous substances from the waste pits that are the subject of this case. That permit also did not authorize the release that is occurring from Big Star's property. Moreover, the USACOE permit was issued to HIT, not Big Star, and the releases are occurring on Big Star's property.

You are correct that additional sampling needs to be done on the Big Star "dry land peninsula." However, sediment sampling conducted earlier this year by the Respondents confirm the TCEQ data showing the highest Site dioxin concentrations (other than in the pits themselves) existing just off the Big Star peninsula in the soil/water interface. Please see Sample Nos. 121 and 153 in the attached Figure 7.

Your thoughtful and expedited consideration of this matter is greatly appreciated. It is important to the orderly handling of the TCRA project that Big Star cooperate in providing access for the equipment laydown and material storage area. Please do not hesitate to call if you have any questions. A1

Albert R. Axe, Jr.

Winstead PC | 401 Congress Avenue | Suite 2100 | Austin, Texas 78701
512.370.2806 *direct* | 512.370.2850 *fax* | aaxe@winstead.com | www.winstead.com
profile link: <http://www.winstead.com/Attorneys/aaxe>

EPA does not agree with Respondents' characterization of the remaining issues with TX DOT. In light of trying to reach a resolution, EPA is attempting to work with TX DOT to provide alternative language for Respondents regarding provisions 6b, 10b, and 10c of the access agreement with TX DOT.

With regards to Big Star, there are salient points omitted from your stated scenario that affects whether Big Star is a PRP. The first and most salient point is that Big Star did not dredge the sediment surrounding the waste pits. That was Houston International Terminal and another company. Secondly, as a landowner of potential Superfund property it is not a given that liability attaches for ownership given EPA's policies and statutory liability protections for contiguous property owners and permit activities under a federally issued permit. In addition, it is not a given that the contamination is on Big Star's property given that the contamination is in the sediment and not on the land (though that may change since all information is not known regarding contamination since EPA is in the beginning of the RI/FS process).

Barbara A. Nann
Assistant Regional Counsel
EPA Region 6 (6RC-S)
1445 Ross Avenue
Dallas, TX 75202
phone: (214) 665-2157
fax: (214) 665-6460
nann.barbara@epa.gov

EXHIBIT 4

After recording, return to:

San Jacinto River Fleet, L.L.C.
717 Lakeside
Channelview, Texas 77530

Special Warranty Deed

Notice of confidentiality rights: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

Date: August 11, 2011

Grantor: Big Star Barge & Boat Company, Inc.,
a Texas corporation, also known as Big Star Barge & Boat
Co., Inc., and also known as Big Star Barge & Boat Co., Inc.,
a Texas corporation;
and, to the extent it has any interest in and
to the hereinbelow described property,
Houston International Terminal, Inc. a Texas corporation

Grantor's Mailing Address: 2425 Broadway St.,
Pearland, Texas 77581-6407
Brazoria County

Grantee: San Jacinto River Fleet, L.L.C.,
a Texas limited liability company

Grantee's Mailing Address: 717 Lakeside
Channelview, Texas 77530
Harris County

Lender: The Frost National Bank

Lender's Mailing Address 100 W. Houston Street
San Antonio, Texas 78205
Bexar County

Consideration: Cash and a note of even date executed by Grantee and payable to the order of Lender in the principal amount of Six Hundred Sixteen Thousand, Two Hundred Fifty and No/100 DOLLARS (\$616,250.00) (said note being hereinafter referred to as the "Note"). The Note is secured by a first and superior vendor's lien and superior title

retained in this deed in favor of the Lender and by a first-lien deed of trust of even date from Grantee to Jimmy R. Locke, trustee.

Property (including any improvements):

Field notes describing a total of 21.462 acres of land out of the J.T. Harrell Survey, Abstract 330, being 0.742 acre tract out of a called 80 acre tract described in Volume 2821, Page 313 and the residue of a called 190.8 acre tract described in Volume 1297, Page 16 of the Deed Records of Harris County, Texas, November 15, 1943, being 190.8 acres save and except (a) 12.84 acres described in Volume 1662, Page 489; (b) 7.89 acres described in Volume 3900, Page 246; (c) 20.0 acres described in Volume 6037, Page 352, leaving a residue of 150.07 acres as described in 1943. Due to subsidence and other forces, the residue of this tract as surveyed in May 2011 is a total of 20.72 acres (described as tracts: Residue Areas One, Two, Three, Four and Five) which combined with the 0.742 acres yields a total acreage of 21.462, and being more particularly described by metes and bounds on Exhibit "A" attached hereto.

Reservations and Exceptions to and from Conveyance and Warranty: (1) The vendor's lien included herein and Deed of Trust lien under the above indicated Deed of Trust associated with this transaction; and, (2) the reservations and exceptions indicated and described on Exhibit "B" attached hereto; and, (3):

GRANTEE IS TAKING THE PROPERTY IN AN ARM'S-LENGTH AGREEMENT BETWEEN THE PARTIES. THE CONSIDERATION WAS BARGAINED ON THE BASIS OF AN "AS IS, WHERE IS" TRANSACTION AND REFLECTS THE AGREEMENT OF THE PARTIES THAT THERE ARE NO REPRESENTATIONS OR EXPRESS OR IMPLIED WARRANTIES. GRANTEE HAS NOT RELIED ON ANY INFORMATION OTHER THAN GRANTEE'S INSPECTION.

GRANTEE RELEASES GRANTOR FROM LIABILITY FOR ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY, INCLUDING LIABILITY (1) UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA), THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), THE TEXAS SOLID WASTE DISPOSAL ACT, AND THE TEXAS WATER CODE; OR (2) ARISING AS THE RESULT OF THEORIES OF PRODUCT LIABILITY AND STRICT LIABILITY, OR UNDER NEW LAWS OR CHANGES TO EXISTING LAWS ENACTED AFTER THE EFFECTIVE DATE OF THE PURCHASE CONTRACT THAT WOULD OTHERWISE IMPOSE ON GRANTORS IN THIS TYPE OF TRANSACTION NEW LIABILITIES FOR ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY. THIS RELEASE APPLIES EVEN WHEN THE ENVIRONMENTAL PROBLEMS AFFECTING THE PROPERTY RESULT FROM GRANTOR'S OWN NEGLIGENCE OR THE NEGLIGENCE OF SELLER'S REPRESENTATIVE.

Grantor, for the Consideration and subject to the Reservations and Exceptions to and from Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and successors, and assigns forever. Grantor binds Grantor and Grantor's successors to warrant and forever defend all and singular the Property to Grantee and Grantee's successors,

and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof when the claim is by, through, or under Grantor but not otherwise, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

Lender at Grantee's requests, has paid in cash to Grantor that portion of the purchase price of the Property that is evidenced by the Note. The first and superior vendor's lien against and superior title to the Property are retained for the benefit of the Lender and are transferred to the Lender without recourse against Grantor.

When the context requires, singular nouns and pronouns include the plural.

Big Star Barge & Boat Company, Inc.,
a Texas corporation

By: Jay W. Roberts
Jay W. Roberts, President

Houston International Terminal, Inc.
a Texas corporation

By: Jay W. Roberts
Jay W. Roberts, President

Grantee accepts the deed and consents to its form and substance. Grantee acknowledges that the terms of the deed conform with Grantee's intent and that they will control in the event of any conflict with the contract Grantee signed regarding the Property described in the deed. Grantee agrees to the obligations imposed on Grantee by the terms of the deed

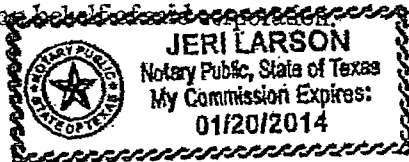
San Jacinto River Fleet, L.L.C.,
a Texas limited liability company

By: William E. Thieftsjer
Printed name: William E. Thieftsjer
Title: Manager

(Acknowledgments)

STATE OF TEXAS §
COUNTY OF BRAZORIA §

This instrument was acknowledged before me on the 11th day of August, 2011, by Jay W. Roberts, as President of Big Star Barge & Boat Company, Inc., A Texas corporation, in the name of and on behalf of said corporation.



Jeri Larson
Notary Public, State of Texas

This instrument was acknowledged before me on the 11th day of August, 2011, by Jay W. Roberts, as President of Houston International Terminal, Inc., A Texas corporation, in the name of and on behalf of said corporation.



Jeri Larson
Notary Public, State of Texas

This instrument was acknowledged before me on the 11th day of August, 2011, by Earl
Thrift, Jr., as Manager of San Jacinto River Fleet, L.L.C., A Texas
limited liability company, in the name of and on behalf of said limited liability company.

Jeri Larson
Notary Public, State of Texas



Prepared in the law office of:
William L. H. Morgan, Jr.
12815 Gulf Freeway
Houston, Texas 77034
281-481-5807

EXHIBIT A
TO THE SPECIAL WARRANTY DEED
FROM
BIG STAR BARGE & BOAT COMPANY, INC.
TO SAN JACINTO RIVER FLEET, LLC

STATE OF TEXAS §

COUNTY OF HARRIS §

Field notes describing a total of 21.462 acres of land out of the J. T. Harrell Survey, Abstract 330, being 0.742 acre tract out of a called 80 acre tract described in Volume 2821, Page 313 and the residue of a called 190.8 acre tract described in Volume 1297, Page 16 of the Deed Records of Harris County, Texas, November 15, 1943, being 190.8 acres save and except (a) 12.84 acres described in Volume 1662, Page 489; (b) 7.89 acres described in Volume 3900, Page 246; (c) 20.0 acres described in Volume 6037, Page 352, leaving a residue of 150.07 acres as described in 1943. Due to subsidence and other forces, the residue of this tract as surveyed in May 2011 is a total of 20.72 acres (described as tracts: Residue Areas One, Two, Three, Four and Five) which combined with the 0.742 acres yields a total acreage of 21.462.

All bearings, distances, and acreages are grid and are referenced to the State Plane Coordinate System, NAD 83, Texas South Central Zone, U. S. survey feet. The mapping angle is +01°55'33" and the combined scale factor is 0.999899660. On shore boundaries, points were placed on the line of mean high water and lines connecting them are meander lines. The gauge at Lynchburg (NOAA 87707331) was utilized as the primary gauge for this project.

RESIDUE AREA ONE plus 0.742 ACRES

BEGINNING at a 5/8" iron rod found at the southeast corner of the said 80 acre tract described in Volume 2821, Page 313, also being the southwest corner of the herein described tract of land and being the southwest corner of the tract described as Residue One. This iron rod is in the north right-of-way of Interstate Highway 10 as established in the said (a) 12.84 acres described in Volume 1662, Page 489 and has a state plane coordinate value of N:13,857,921.12 and E: 3,215,107.91:

THENCE with the east line of the called 80 acre tract N02°31'54"W 484.34 feet to a 1/2" iron rod '5502' set at the southeast corner of the said 0.742 acre tract out of the said called 80 acre tract, also being in the west line of the said 190.8 acre tract. From said iron rod an existing chain link fence corner bears S20°03'06"E 2.65 feet.

THENCE S 87°32'27"W 100.00 feet to an iron rod found with cap stamped '2068'.

THENCE N 02°31'54" W with the west line of the said 0.742 acres 323.20 feet to a 1/2" iron rod set with cap '5502' at the northwest corner of the herein described 0.742 acre tract.

THENCE N 87°32'27"E 100.00 feet to a ½" iron rod set '5502' in the west line of the said 190.8 acre tract, also being the east line of the said 80 acre tract and the northeast corner of the herein described 0.742 acre tract. From said iron rod an existing chain link fence corner bears S11°32'08"E 3.28 feet.

THENCE N 02°31'54" W with the west line of the said 190.8 acre tract and the west line of Residue One tract, also being the east line of the said 80 acre tract, at 105.03 feet pass a ½" iron rod set '5502' as reference, and continue for a total distance of 145.03 feet to a point on the line of mean high water from which a chain link fence post bears N40°23'08"E 1.74 feet.

THENCE with the line of mean high water the following meanders:

L1	N53°58'11"E	82.79 feet;
L2	N65°10'44"E	28.54 feet;
L3	N25°48'47"E	26.85 feet;
L4	S88°15'09"E	41.32 feet;
L5	S21°30'35"E	36.86 feet;
L6	N87°55'44"E	74.71 feet;
L7	S73°48'40"E	35.76 feet;
L8	S02°11'01"E	183.58 feet;
L9	S02°12'39"W	267.80 feet;
L10	S27°57'09"E	9.12 feet;
L11	S45°26'57"E	15.69 feet;
L12	S61°42'32"E	175.82 feet;
L13	N56°50'44"E	94.95 feet;
L14	N52°19'13"E	179.58 feet;
L15	S79°27'52"E	14.88 feet;
L16	N00°37'00"W	27.60 feet;
L17	N15°29'28"E	41.88 feet;
L18	N01°36'53"E	294.82 feet;
L19	N20°20'17"E	44.72 feet;
L20	N86°09'14"E	77.82 feet;
L21	S39°13'12"E	40.41 feet;
L22	N73°31'36"E	31.98 feet;
L23	N49°52'20"E	30.97 feet;
L24	S74°27'25"E	32.95 feet;
L25	S38°47'57"E	73.14 feet;
L26	S22°50'50"E	66.58 feet;
L27	S33°02'30"E	69.03 feet;
L28	S13°15'14"E	87.74 feet;
L29	S12°27'06"E	86.91 feet;
L30	S35°50'06"E	80.51 feet;
L31	S07°52'21"E	89.97 feet;
L32	S23°19'20"W	49.33 feet;
L33	S81°19'59"W	50.43 feet;
L34	S67°18'15"W	78.63 feet;

L35	S40°10'19"W	46.49 feet;
L36	S15°55'28"W	69.84 feet;
L37	S03°17'11"E	72.55 feet;
L38	S14°05'38"W	83.40 feet;
L39	S76°32'52"W	51.28 feet;
L40	S29°20'36"W	81.87 feet;
L41	S71°41'00"W	109.37 feet;
L42	S42°47'30"W	131.08 feet;
L43	S65°25'31"W	76.49 feet;
L44	N78°14'08"W	65.08 feet;
L45	S64°42'47"W	14.56 feet to a point at the intersection of the line of mean high water with the north right-of-way line of Interstate Highway 10.

THENCE with a portion of a curve having a radius of 1910.00 feet and a central angle of 49°45'00", the chord of which bears N79°13'10"W 432.24 feet to the PLACE OF BEGINNING of this portion of description containing 0.742 and 17.55 acres (Residue Area One) for a total acreage described of 18.292 acres.

RESIDUE AREA TWO:

BEGINNING on the line of mean high water at state plane coordinate value N:13,859,605.46 and E:3,216,797.72.

THENCE with the line of mean high water the following meanders:

L46	N04°23'08"E	18.98 feet;
L47	S82°16'28"E	89.71 feet;
L48	S19°43'42"W	32.88 feet;
L49	S65°41'41"E	28.40 feet;
L50	N09°21'37"E	40.41 feet;
L51	S86°54'18"E	13.89 feet;
L52	S66°58'16"E	99.64 feet;
L53	S54°17'52"W	62.10 feet;
L54	S81°28'45"W	69.45 feet;
L55	N68°19'32"W	53.83 feet;
L56	N37°42'10"W	78.73 feet to the PLACE OF BEGINNING, containing 0.28 acre of land.

RESIDUE AREA THREE:

BEGINNING on the line of mean high water at state plane coordinate value N:13,858,992.69 and E:3,218,011.53.

THENCE with the line of mean high water the following meanders:

L57	N01°47'03"E	80.55 feet;
L58	N52°11'03"E	28.27 feet;
L59	S62°02'30"E	61.75 feet;
L60	S57°11'44"E	75.55 feet;
L61	S67°16'18"E	72.06 feet;
L62	S52°00'45"E	123.97 feet;

L63	S50°30'21"E	109.26 feet;
L64	S31°30'14"E	154.37 feet;
L65	S30°53'18"W	73.65 feet;
L66	S15°54'02"E	60.81 feet;
L67	S13°39'18"W	81.38 feet;
L68	S20°20'29"W	78.12 feet;
L69	N76°30'21"W	33.51 feet;
L70	N09°09'14"W	66.49 feet;
L71	N01°11'45"W	104.97 feet;
L72	N16°34'16"W	145.29 feet;
L73	N61°03'52"W	124.86 feet;
L74	N45°12'33"W	96.25 feet;
L75	N73°23'12"W	113.92 feet;
L76	N33°07'13"W	37.65 feet;
L77	N14°08'33"W	42.60 feet to the PLACE OF BEGINNING, containing
2.02 acres of land.		

RESIDUE AREA FOUR:

BEGINNING on the line of mean high water at state plane coordinate value N: 13,858,637.53 and E: 3,218,521.32.

THENCE with the line of mean high water the following meanders:

L78	S44°27'20"E	51.35 feet;
L79	S17°04'32"E	124.37 feet;
L80	S13°01'37"E	56.51 feet;
L81	S15°37'52"W	24.00 feet;
L82	N12°37'35"W	151.14 feet;
L83	N38°57'27"W	92.00 feet;
L84	N39°32'35"E	19.05 feet to the PLACE OF BEGINNING, containing
0.07 acres of land.		

RESIDUE AREA FIVE:

BEGINNING at a ¾" iron pipe at the southwest corner of said 20 acre tract described in Volume 6037, Page 352, also being the southeast corner of the herein described Residue Area Five. Said iron pipe is in the north right-of-way of Interstate Highway 10 and has a state plane coordinate value of N: 13,857,338.33 and E: 3,216,627.00.

THENCE with the northerly right-of-way of Interstate 10 N64°25'13"W 931.17 feet to the PC of a curve having a radius of 1910.00 feet and a central angle of 49°45'00".

THENCE with a portion of said curve the chord of which bears N66°26'37"W
131.58 feet to the intersection of the said ROW line with the line of mean high water.
THENCE with the line of mean high water the following meanders:

L87	S86°01'39"E	51.59 feet;
L88	S82°36'07"E	35.73 feet;
L89	S65°57'00"E	105.54 feet;
L90	S60°36'12"E	55.64 feet;
L91	S45°17'18"E	71.68 feet;
L92	S65°30'45"E	113.80 feet;
L93	S77°10'41"E	262.44 feet;
L94	N86°48'54"E	63.72 feet;
L95	S10°56'39"W	33.03 feet;
L96	S59°22'32"E	190.86 feet;
L97	S71°17'43"E	23.64 feet;
L98	S71°38'07"E	48.95 feet;
L99	S21°25'41"E	76.46 feet to the PLACE OF BEGINNING, containing 0.80 acres of land.

EXHIBIT B
TO THE SPECIAL WARRANTY DEED
FROM
BIG STAR BARGE & BOAT COMPANY, INC.
TO SAN JACINTO RIVER FLEET, LLC

Reservations and exceptions:

- a. Rights of Parties in possession. (OWNER POLICY ONLY)
- b. Pipe line easement granted to Humble Pipe Line Company, as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). B-119504. (Volume 3900, Page 246)
- c. Easement granted to Houston Lighting & Power Company as set forth and described by instrument(s) filed for record under Harris County Clerk's File No(s). T-023761
- d. Pipeline easement granted to Humble Oil & Refining Company, by instrument(s) recorded in Volume 934, Page 485 of the Deed Records of Harris County, Texas. (Defined under Harris County Clerk's File No. C-217233)
- e. Right-of-way granted to Humble Pipe Line Company, by instrument(s) recorded in Volume 1068, Page 112 of the Deed Records of Harris County, Texas. (Defined under Harris County Clerk's File No. C-150379)
- f. Pipeline easement granted to Humble Pipe Line Company, by instrument(s) filed for record under Harris County Clerk's File No(s). C-775373.
- g. Easement granted to Houston Lighting & Power Company as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). G-654979.
- h. Easement for ingress and egress as set forth and evidenced by instrument(s) filed for record under Harris County Clerk's File No(s). G-654979.
- i. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 452, Page 339, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- j. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 441, Page 299, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- k. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 437, Page 591, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- l. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 452, Page 336, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- m. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 440, Page 120, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)

- n. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 793, Page 602, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- o. 1/16th of all oil, gas and other minerals as set forth in instrument(s) filed for record under Harris County Clerk's File No(s) B-119504. (Title to said interest not checked subsequent to its date of execution.)
- p. All oil, gas and other minerals as set forth in instrument(s) filed for record under Harris County Clerk's File No(s) D-165288, D-168046, D-057648, D-057649, D-057650, D-057651 and D-324812. (Title to said interest not checked subsequent to its date of execution.)
- q. The terms conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). L-646620. (Title to said lease not checked subsequent to its date of execution.)
- r. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 2541, Page 315, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- s. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). C-349921.(Title to said lease not checked subsequent to its date of execution.)
- t. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 959, Page 457, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- u. All oil, gas and other minerals as set forth in instrument(s) recorded in Volume 1160 Page 547, of the Deed Records of Harris County, Texas. (Title to said interest not checked subsequent to its date of execution.)
- v. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). L-166983. (Title to said lease not checked subsequent to its date of execution.)
- w. The terms, conditions and stipulations of that certain mineral lease(s) filed for record under Harris County Clerk's File No(s). X-253212.(Title to said lease not checked subsequent to its date of execution.)
- x. Any and all unrecorded leases and/or rental agreements, with rights of tenants in possession.
- y. Intentionally deleted.
- z. This company shall have no liability for, nor responsibility to defend, any part of the property described herein against any right, title, interest or claim (valid or invalid) or any character had or asserted by the State of Texas or by any other Government or Governmental Authority or by the public generally (1) in and to portions of the above described property which may be within the bed, shore or banks of a perennial stream or lake navigable in fact or in law or within the bed or shores or the beach adjacent thereto

of a body of water affected by the ebb and flow of the tide; and (2) in and to portions of the above described property which may be between the water's edge and the line of vegetation on the upland or for any claim or right of ingress thereto or egress therefrom.

- aa. This Company shall have no liability for, nor responsibility for, nor responsibility to defend any part of the property described against any right, title, interest or claim (valid or invalid) of any character had or asserted by the State of Texas or by any Government or Governmental Authority, or by the public, generally in or to any portions of the herein described property that may lie within the bed of the San Jacinto River, and further, this Company does not guarantee changed in the boundaries of subject property caused by the forces of erosion, accretion and/or avulsion.
- bb. Intentionally deleted.
- cc. This examination includes the following: that the Underwriter guidelines have been checked to allow a T-19 Endorsement to be issued, subject to the payment of assessments having been paid, the release of right of first refusal if required above. However, subject to Underwriter approval of encroachments or violation of restrictions if any shown on survey.
- dd. Chain link fence encroaches 2.91' into tract on south, as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor No. 5502.
- ee. Billboards, access gates, pipeline signs, barge anchors and drain, as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor, No. 5502.
- ff. Variance between fence line(s) and property line(s), as evidenced by survey dated May 2011, prepared by Nedra J. Foster, Registered Professional Land Surveyor No. 5502.

EXHIBIT 5

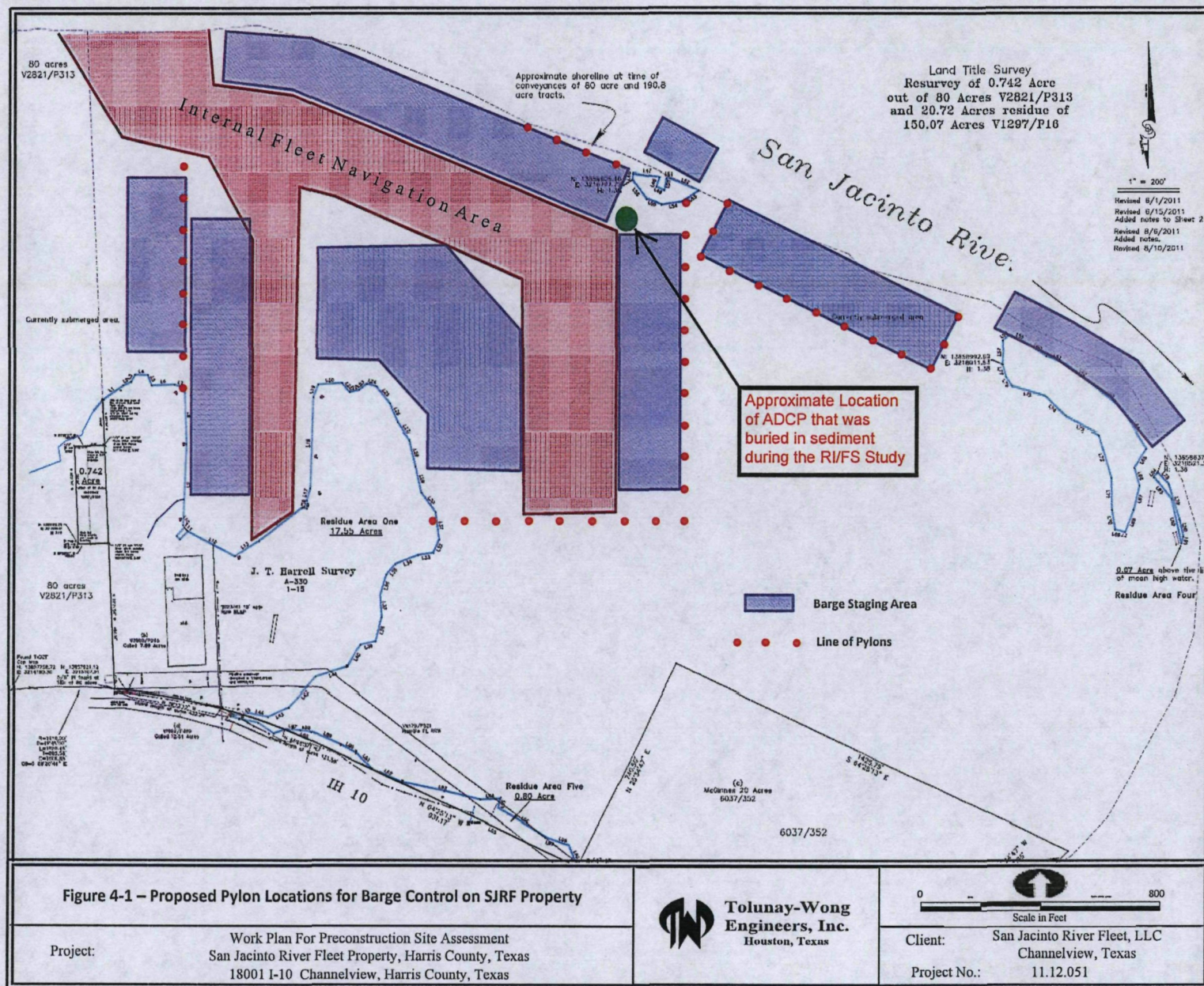


Figure 4-1 – Proposed Pylon Locations for Barge Control on SJRF Property

Project:

Work Plan For Preconstruction Site Assessment
San Jacinto River Fleet Property, Harris County, Texas
18001 I-10 Channelview, Harris County, Texas



**Tolunay-Wong
Engineers, Inc.**
Houston, Texas

Client:

San Jacinto River Fleet, LLC
Channelview, Texas

Project No.:

11.12.051

EXHIBIT 6









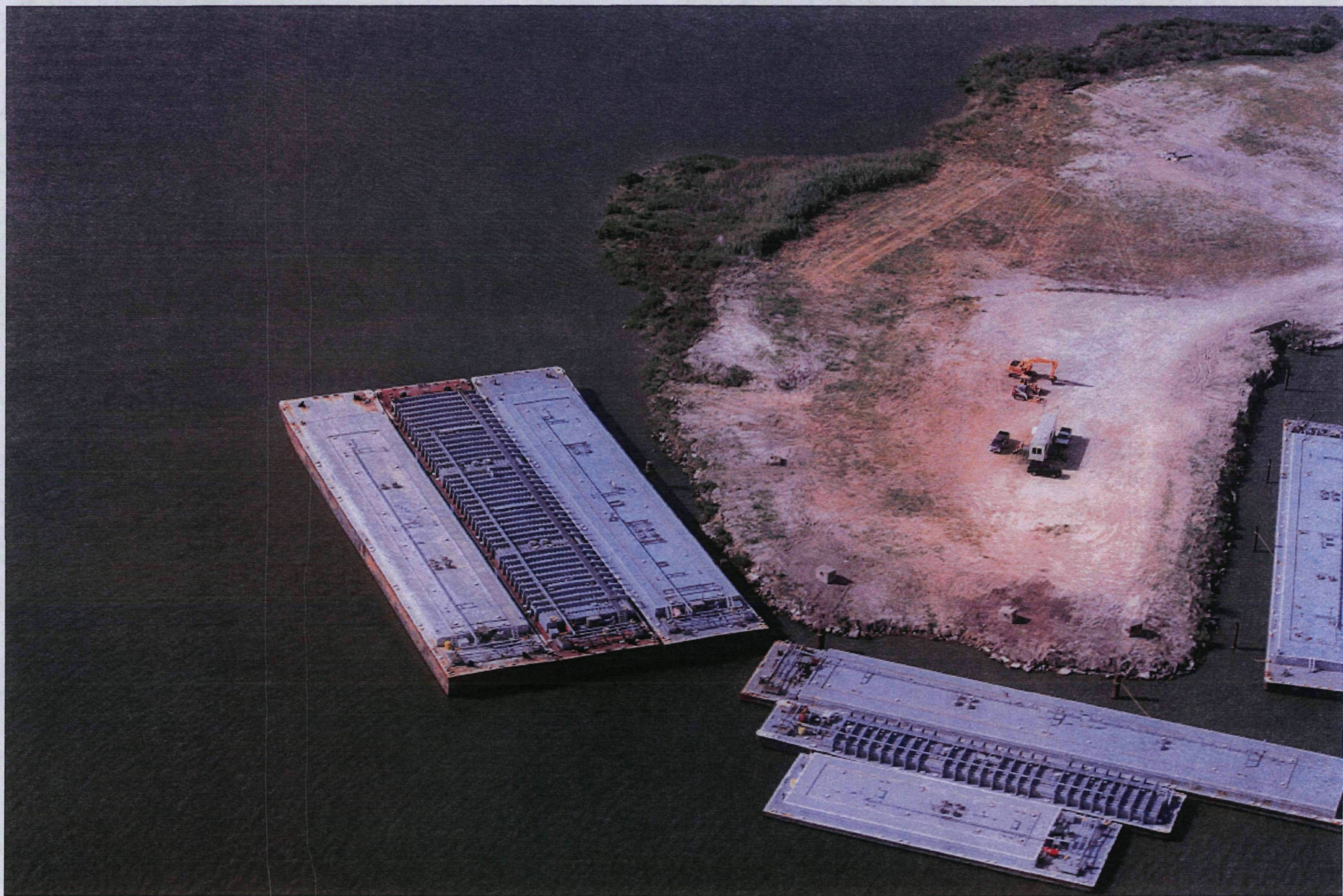


EXHIBIT 7

EXHIBIT 8



614 Magnolia Avenue
Ocean Springs, Mississippi 39564
Phone 228.818.9626
Fax 228.818.9631

September 21, 2011

Mr. Gary Miller
U.S. Environmental Protection Agency
Superfund Division (6SF-RA)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: San Jacinto Waste Pits Superfund Site ADCP Servicing Issues
Project Number: 090557-01

Dear Gary:

As we discussed on Friday, September 16, 2011, Anchor QEA staff mobilized on Wednesday, September 14, 2011, to service the Acoustic Doppler Current Profiler (ADCP) that is in place for the fate and transport modeling field effort at the San Jacinto River Waste Pits Superfund Site (Site). At the Site, we encountered a situation that USEPA should be aware of regarding the ADCP and the barge operations at the former Big Star Barge & Boat Company, Inc. (Big Star) property now owned by San Jacinto River Fleet, L.L.C. (SJR Fleet).

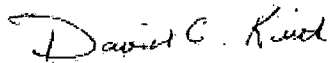
On September 14, 2011, Anchor QEA's maintenance crew could not retrieve the ADCP because the retrieval buoy was malfunctioning. Therefore, on September 15, 2011, a diver was dispatched to retrieve the ADCP. That effort revealed that the ADCP was buried in approximately one foot of sediment, which resulted in the retrieval buoy malfunction.

With the current drought conditions, there has been very little flow in the river since the last ADCP maintenance event two months ago. It is likely, therefore, that the high sedimentation observed at the ADCP location is due to sediments being suspended by propeller wash from nearby tug and barge traffic associated with the SJR Fleet operations. These operations occur between the river navigation channel and the former Big Star

property, in very close proximity to the former ADCP location. As a result of the impact of the fleeting operations on the ADCP, we have determined it necessary to move the ADCP to the location shown in the attached figure to get it out of the direct path of the SJR Fleet boat movements.

Please feel free to contact me if you would like to discuss this issue any further.

Sincerely,



David C. Keith
Anchor QEA, LLC

Cc: March Smith – MIMC
Andrew Shafer – MIMC
Philip Slowiak - IP

Attachment

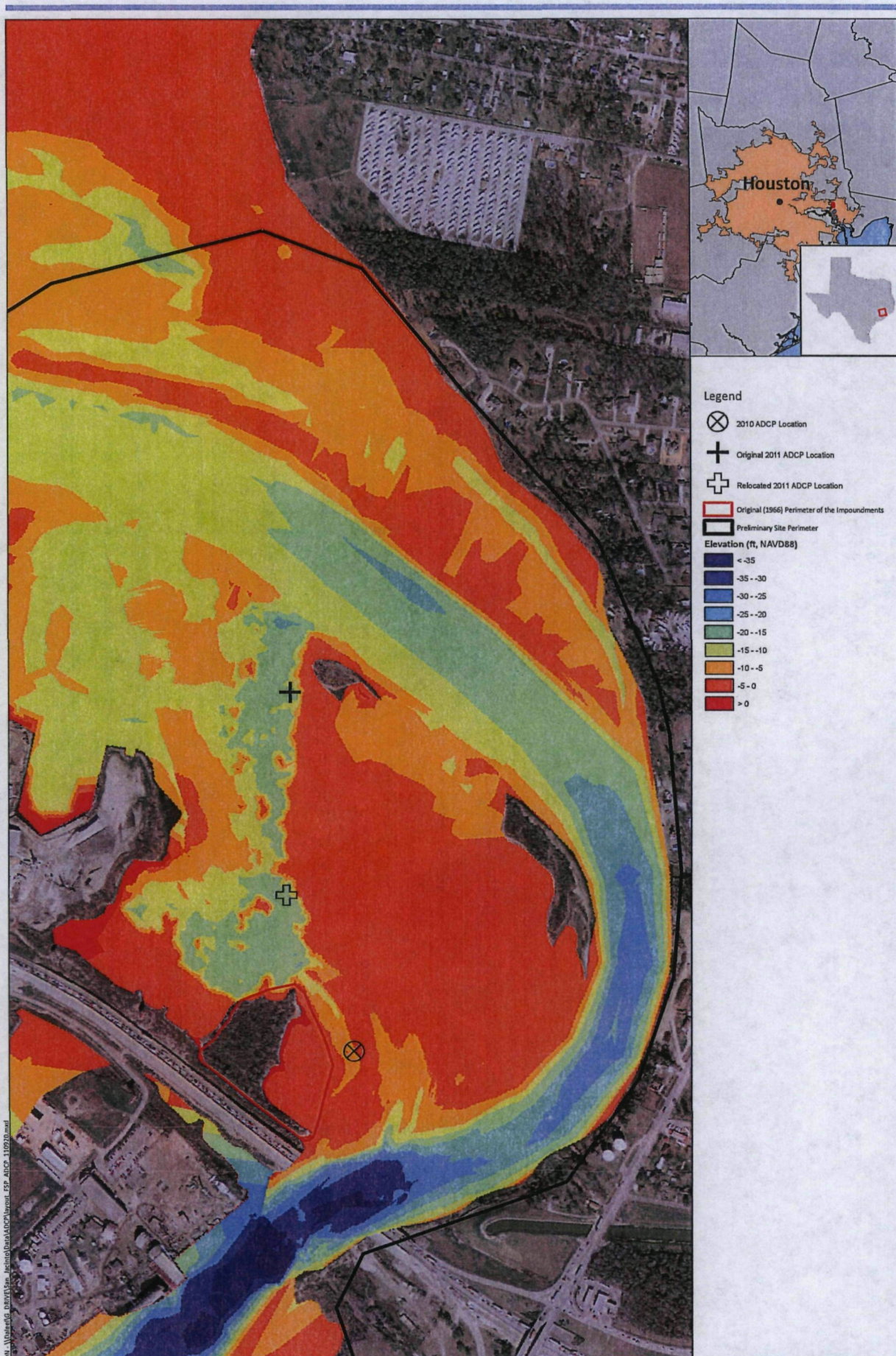


EXHIBIT 9

RESUSPENSION AND TRANSPORT OF CONTAMINATED SEDIMENTS ALONG THE SEATTLE WATERFRONT, PART 1: FIELD INVESTIGATIONS AND CONCEPTUAL MODEL

T. C. MICHELSEN^{a,*}, C. D. BOATMAN^b, D. NORTON^c,
C. C. EBBESMEYER^d, T. FLOYD^e and M. D. FRANCISCO^f

^a *Avocet Consulting, 15907 76th Pl. NE, Kenmore, WA 98028;*

^b *Aura Nova Consultants, Inc., 11711 Northcreek Pkwy S.,
Suite D101, Bothell, WA 98011;*

^c *Washington State Department of Ecology, P.O. Box 47600,
Lacey, WA 98504;*

^d *Evans-Hamilton, 4608 Union Bay Pl. NE, Seattle, WA 98105;*

^e *Floyd & Snider, Inc., 83 S. King St., Suite 614, Seattle, WA 98104;*

^f *NOAA Pacific Marine Center, 1801 Fairview Ave. E., Seattle, WA 98102*

(Received April 1998; In final form November 1998)

Cleanup of contaminated sediments along urban waterfronts has become a world-wide problem. As with other working waterfronts, cleanup of Seattle's waterfront has been delayed because of uncertainty regarding sources of contamination and the interrelationship between point sources, non-point sources, construction projects, and resuspension by vessel traffic and currents. The results of field studies are presented that address the potential for sediment recontamination following proposed cleanup projects, sources of contamination and their relative magnitudes, and the natural and anthropogenic processes that affect transport of contaminated sediments along the waterfront. The primary factors affecting the success of partial cleanup projects along the Seattle waterfront are identified as resuspension of contaminated sediments by propeller wash and subsequent transport of these sediments by natural and ferry-induced currents to adjacent areas.

Keywords: Contaminant transport; sediments; recontamination; resuspension; vessel traffic

*Corresponding author.

INTRODUCTION

Cleanup of contaminated sediments along urban waterfronts has become a world-wide problem. In three articles, we describe research into the factors that complicate sediment cleanup in working waterfronts and propose a variety of design and management solutions to these problems. This article describes the field studies that were conducted to: 1) evaluate the potential for recontamination following proposed cleanup of the Seattle waterfront, 2) determine the sources of recontamination and their relative magnitudes, and 3) identify the natural and anthropogenic processes that affect transport of contaminated sediments along the waterfront. The second article describes modeling of these processes to allow evaluation of the success of potential control measures. The third article (forthcoming) discusses design features, construction management practices, and institutional solutions that allow successful cleanup of a working waterfront while minimizing disruption of waterfront redevelopment activities and navigational projects.

Seattle's waterfront is located on Elliott Bay, in Puget Sound (Fig. 1). Sediments along the waterfront are contaminated with metals (primarily mercury), petroleum hydrocarbons, and other organic chemicals. In some places, contamination extends up to 20 feet deep in the sediments. Because of the high levels of contamination, its location along salmon migration corridors, and the potential for public exposure through tribal, recreational, and commercial fisheries, the central Seattle waterfront was selected as a high-priority area for cleanup by a group of agencies and tribes known as the Elliott Bay/Duwamish Restoration Panel. However, concerns had been expressed in previous reports that recontamination of sediments along the Seattle waterfront could limit the success of cleanup projects in the area (Hart Crowser, 1990; Wilson and Romberg, 1994, 1996). To address this issue, the Washington State Department of Ecology conducted a study of the waterfront prior to moving forward with cleanup.

Potential sources of recontamination evaluated as part of this study included ongoing discharges, non-point sources, local resuspension of contaminated sediments, and longshore transport of contaminated sediments from other areas (the Duwamish River to the south and contaminated shoreline to the north; Fig. 1). The study focused on the

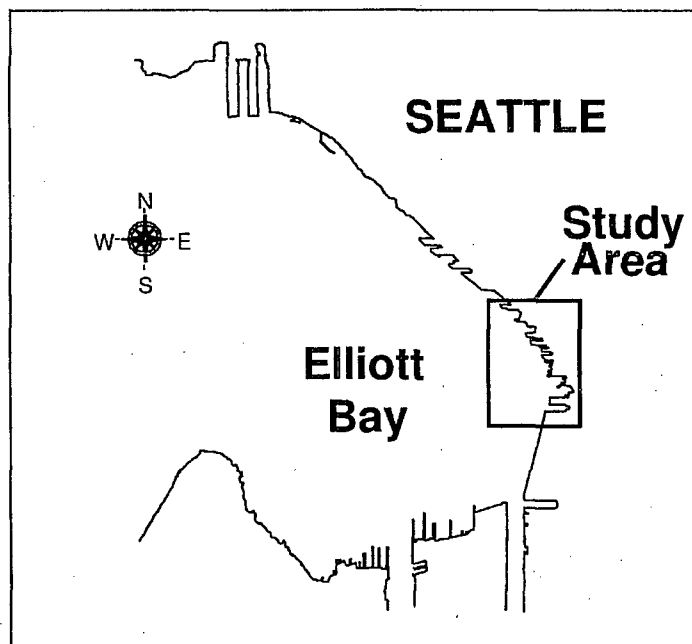


FIGURE 1 Seattle surrounds Elliott Bay, a deep-water bay located in central Puget Sound, Washington. The outlined study area is comprised of the historic Seattle waterfront, and has experienced a variety of releases in its history, including spillage from coal barges, combined sewer and stormwater discharges, petroleum releases, two significant fires, and other industrial and non-point sources.

nearshore waterfront area extending from Pier 48 on the south to Pier 59 on the north (Fig. 2), but also included evaluation of more distant sources, including the Duwamish River plume and the Denny Way combined sewer overflow (CSO).

Five specific study goals were established: (1) Determine the rates of sedimentation, recontamination, and/or natural recovery of sediments along the waterfront; (2) identify the components of recontamination and quantify the contribution of each component to the extent possible, including an evaluation of uncertainties; (3) model the impact of these recontamination processes on potential sediment cleanup alternatives for the waterfront area; (4) if the rate of recontamination is unacceptable, identify source control and/or resuspension control measures that would reduce recontamination to an acceptable rate; and (5) provide recommendations on whether cleanup along the Seattle waterfront is

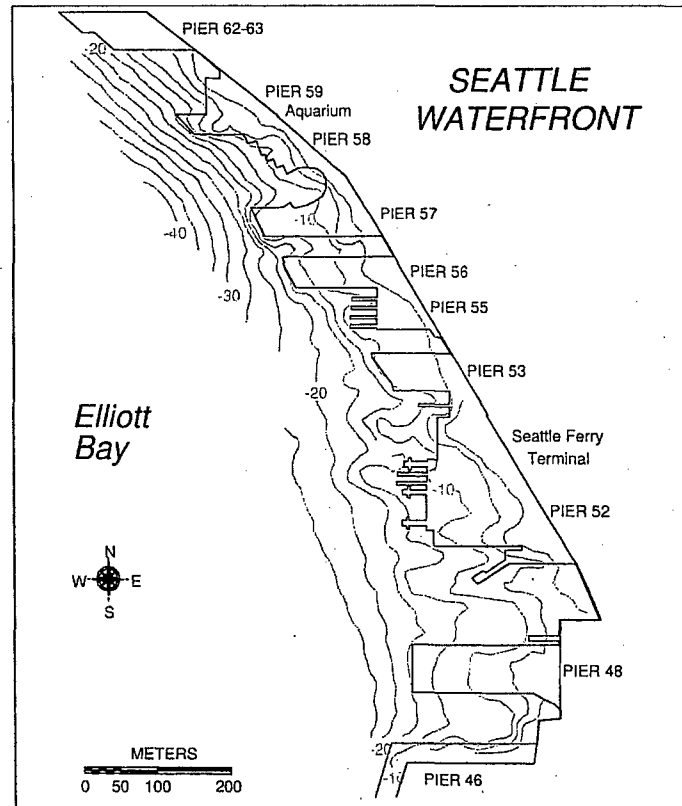


FIGURE 2 The study area is located within an active area of vessel traffic, including the Port of Seattle's Pier 46, the Canadian ferry Royal Victorian terminal at Pier 48, Washington State passenger ferries and auto ferries at Pier 52, a fireboat dock between Piers 52 and 53, harbor tours at Pier 55, and fishing vessel moorage in other areas. Bathymetry along the piers is relatively shallow (< 20 m), dropping off quickly beyond the pierhead line.

feasible, the most appropriate project location(s) for cleanup, and the size and type of project that would have the greatest chance of success.

STUDY DESIGN AND METHODS

The study was composed of both field and modeling tasks. In preparation for the study, a literature search was undertaken to identify

relevant literature addressing Elliott Bay and the Duwamish River, concerning currents, sediment resuspension, distribution and chemical analyses of suspended particles, sediment trap studies, sediment accumulation rates, and bottom sediment grain size and chemistry. More than 100 references were reviewed and compiled (EBDRP, 1995a). A workshop to plan the field investigation was held with a panel of local experts, including representatives of federal, state, and local agencies, the University of Washington, and consultants with substantial experience in Puget Sound. An audience of 50 agency staff, consultants, and public also provided valuable input.

The study elements described below were included to address data gaps identified by the literature review and workshop. Field sampling was conducted in accordance with the sampling plan and methods described in PSWQA (1996a); additional detail is provided in Norton (1993a) and EBDRP (1995a).

Distribution and Transport of Suspended Particulates

The sources and distribution of particles in the water column have been examined by Baker (1982); Baker *et al.* (1983); Curl *et al.* (1988); Feely *et al.* (1988) and Paulson *et al.* (1989). They concluded that the largest source of particles to the nearshore area is the Duwamish River, but that most particles remain within 5 m of the sea surface and are transported out of the bay in the surface layer originating from the Duwamish River. Tomlinson *et al.* (1980) investigated particle loading from local CSOs and storm drains, and found most to be minor sources of sediment compared to the Duwamish River plume; however, the Denny Way CSO may be a localized source of particles to bottom sediments.

Large-scale sediment transport pathways in Elliott Bay were investigated by McLaren and Ren (1994). Bottom sediment was found to be slowly transported southward along the waterfront in a clockwise direction, opposite to the direction of the movement in the surface layer. Sources of sediment were considered minor, but included erosion from sandy bluffs along the northwest shoreline of Elliott Bay. Evidence of anthropogenic disturbances of sediments in the waterfront area was found, and was attributed to resuspension of sediments in slips due to vessel traffic and remnants of fill material sluiced into Elliott Bay during the late 1800's and early 1900's.

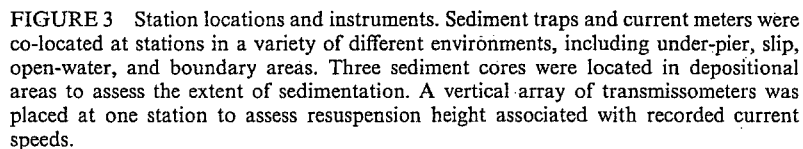
To more clearly define depositional and erosional environments within the study area, and assist with selection of bottom core sampling stations, 69 surface sediment samples were collected from the top two cm of the seafloor along 15 nearshore transects and analyzed for grain size distribution according to PSWQA (1996b). Where feasible, the stations were placed along 40-meter centers along transects spaced 17 meters apart, to an off-shore water depth of 20 meters.

Sediment Deposition and Resuspension

Previously, sediment resuspension and deposition was evaluated at Pier 65, immediately north of the study area (Hart Crowser, 1990). Sediment traps were deployed at one station and a core sample was obtained and dated using ^{210}Pb . The results suggested that deposition rates were low ($0.26 \text{ g/cm}^2/\text{yr}$), resuspension of bottom sediments was an important process, and that sources of PAHs in the area might be a concern.

Various approaches were used to identify sedimentation rates and sources of sediment to the study area. Sediment traps were deployed from Oct. 1993 through Oct. 1994 at nine stations (Fig. 3), approximately 1 meter above the bottom. [trap configuration and sample processing methods are described in previous publications (Norton and Barnard, 1992a, b; Norton, 1993b)]. At stations EB-1 and EB-6, sediment traps were also suspended from floating moorings at a depth of 1 meter below the water surface. The pairing of surface and bottom traps at these stations was designed to differentiate between surface deposition from the Duwamish River fresh water plume, and resuspension of sediments from the bottom. Sediments from the traps were collected at quarterly intervals and accumulation rates were determined.

In addition, three sediment cores were collected and analyzed using ^{210}Pb and ^{137}Cs radiometric dating to accurately determine deposition rates (Tab. I). All cores were collected using a gravity corer equipped with a stainless steel core cutter and brass core catcher mounted on the end of a 10 cm diameter by 2 m long PVC barrel. Sediment core samples ranged in length from 84 to 155 cm; each core section depth was subsequently corrected for compaction (Blomqvist, 1985). The logarithm of the ^{210}Pb activity was plotted as function of corrected depth for each core and inspected to determine the presence and depth of the surface mixed layer.



The chemistry of suspended particles in the Duwamish River and Elliott Bay has been previously investigated by Crecelius *et al.* (1975); Riley *et al.* (1980); Curl *et al.* (1988); Feely *et al.* (1988) and Paulson *et al.* (1989, 1991). Feely *et al.* (1988) suggested that most trace metal contaminants were transported out of Elliott Bay as a result of the

TABLE I Analytical methods, associated references and analytical laboratories used for this study

<i>Analysis</i>	<i>Method</i>	<i>Reference</i>	<i>Laboratory</i>
Percent Solids	Dry@104°C	PSEP, 1986	Ecology/EPA-Manchester, WA.
Grain Size	Sieve and pipet	PSEP, 1986	Soil Technology Inc.- Bainbridge Is., WA.
Total Organic Carbon	Apparent (w/o H ₂ O ₂ addition)	PSDDA, 1993	Weyerhaeuser Tech. Center-Tacoma, WA.
	True (w/H ₂ O ₂ addition)		
	Combustion/CO ₂ measurement as modified by PSDDA		
Total Metals			
Aluminum	ICP	EPA, 1986	Ecology/EPA-Manchester, WA.
Arsenic	GFAA	"	"
Cadmium	GFAA	"	"
Chromium	ICP	"	"
Copper	ICP	"	"
Iron	ICP	"	"
Lead	GFAA	"	"
Manganese	ICP	"	"
Mercury	CVAA	"	"
Silver	ICP	"	"
Zinc	ICP	"	"
Organics			
Semivolatiles	GC/MS #8270	EPA, 1986	Ecology/EPA-Manchester, WA.
PCBs	GC/ECD #8080	"	"
Radiodating			
²¹⁰ Pb	²¹⁰ Polonium activity	Koide <i>et al.</i> , 1973	Battelle Northwest-Sequim, WA.
¹³⁷ Cs	Gamma Spectroscopy	-	"

short residence time of water in the Duwamish River plume. Limited information concerning the concentrations of organic chemicals on particles was available prior to this study, and was focused on outfall areas (Riley *et al.*, 1980; Curl *et al.*, 1988). In contrast to the metals, Curl *et al.* (1988) concluded that outfalls and other sources along the Seattle waterfront may contribute more PAHs to localized areas of the Seattle waterfront than the Duwamish River plume.

To investigate particle chemistry and determine sources of contaminants to the water column, sediment trap contents from all stations were analyzed quarterly (Tab. I). Analyses included percent solids, grain size, total organic carbon, total metals (Ag, Al, As, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Zn), semivolatile organics, PCBs, and ^{210}Pb . Physical/chemical analyses of trap sediments were conducted using procedures specified in the Puget Sound Protocols (PSWQA, 1996b,c,d). The type and frequency of laboratory quality control samples were as specified in the EPA/Ecology Manchester Laboratory Quality Assurance Manual (Ecology, 1988).

Bottom Sediment Chemistry

Substantial information on surface sediment contamination along the Seattle waterfront has been collected (Dexter *et al.*, 1981; Tetra Tech., 1986; PTI and Tetra Tech., 1988; Metro, 1988; Metro, 1989; Hart Crowser, 1990; Wilson and Romberg, 1994, 1996). These reports concluded that the study area has been widely contaminated by low- and high-molecular weight PAHs, mercury, and PCBs. Localized areas are contaminated with cadmium, copper, lead, silver, zinc, phthalates, and chlorinated benzenes. Little information was available on contaminant concentrations in subsurface sediments. Boring logs available for several piers and one core collected at Pier 65 (Hart Crowser, 1990) suggested that contamination might increase with depth in sediments and at some locations might extend more than 3 meters below the sea floor. A subsequent investigation at the ferry terminal confirmed a petroleum-saturated layer of contaminated sediments up to 7 meters thick (Hart Crowser, 1994).

For the most part, the authors relied on the existing surface sediment chemistry data described above for comparison to sediment trap results. However, to further investigate the depth and history of

contamination along the waterfront, sections from the three sediment cores described above were analyzed for percent solids, grain size, total organic carbon, trace metals (Al, Cu, Fe, Pb, Mn, Hg and Zn), and PCBs, in addition to the ^{210}Pb and ^{137}Cs analyses described above. Physical/chemical analyses of sediment samples were conducted using procedures specified in the Puget Sound Protocols (PSWQA, 1996b, c, d).

Nearshore Currents

Prior to this study, little was known about bottom currents in the nearshore environment (< 20 m deep) of the study area. Previous studies indicated that natural currents were weak and variable (Sillcox *et al.*, 1981; URS and Evans-Hamilton, 1986; Curl *et al.*, 1988). A 3-m thick layer of fresh water from the Duwamish River discharges primarily through the West Waterway, travels generally northeast to the Seattle waterfront, then flows northward to Puget Sound along the northeast side of Elliott Bay (Winter, 1977; Sillcox *et al.*, 1981; Cox *et al.*, 1984). However, it was not certain whether bottom currents traveled in the same or a different direction along the shoreline. Small-scale effects on nearshore currents due to structures, vessel traffic, and other anthropogenic influences had not been characterized.

To address these questions, current meters were placed 1 meter above the sea floor in slips, along the edges of piers, under piers, and in open-water areas. Aanderra® Model RCM-4 current meters were placed at six stations (EB-1, EB-1A, EB-3, EB-6, EB-8 and EB-9) to measure near bottom current velocities. These current meters were sampled quarterly for one year. The current meter at station EB-1 was moved offshore to station EB-1A during the third and fourth quarter to investigate conditions west of the pierhead line. In addition to the near-bottom current meters, one current meter was suspended from a surface float 2 meters below the water surface at Station EB-6 to measure current velocities in the Duwamish River plume (protected year-round surface moorage locations along the waterfront were limited). Current speed was recorded as 15-minute averages and direction was recorded instantaneously at the end of each interval.

Current velocity information from the first quarter of monitoring indicated that a significant portion of the current speeds in the study

area were below the RCM-4's lower speed threshold of 2.5 cm/sec. To better characterize current velocities < 2.5 cm/sec, two Interocean® S4 current meters were relocated monthly among a total of 12 locations [EB-1A, EB-2, EB-4, EB-6 (surface), EB-6 (bottom), EB-8, EB-9, EB-10, EB-11, EB-12, EB-13, EB-14] from late January to mid-October of 1994. The S4 meters were set to record one-minute average velocity vectors at 15-minute intervals.

To record the effects of vessel prop wash, the two S4 current meters were deployed for two days (October 25–27) at two locations offshore of ferry docks (EB-8 and EB-16), and set to continuously record 30-second velocity vector averages. This recording frequency was used to evaluate velocity pulses from short-term events associated with ferry operations. A hydrographic survey was also conducted to assist with modeling tasks (performed to U.S. Army Corps of Engineers Class 1 standards).

RESULTS AND DISCUSSION

Because of the amount of data generated by this study, data analysis was conducted in stages, to answer the critical questions first, followed by more exploratory analyses. The most important question was whether there was a potential for recontamination of bottom sediments if they were cleaned up. Once this question was answered in the affirmative, a series of follow-up studies was conducted to determine, through a sequential process of data analysis, the sources, mechanisms, and rates of recontamination. The results and analyses are discussed below in the order in which they were conducted.

Particulate Chemistry

The potential for recontamination along the waterfront was evaluated by examining chemical concentrations in particles collected in the sediment traps and comparing them to the Washington State Sediment Management Standards (SMS) criteria (Chapter 173–204 WAC). The SMS identify specific contaminant levels below which no adverse effects are expected to benthic organisms, known as the Sediment Quality Standards (SQS). The SMS also establish Cleanup Screening

Levels (CSLs) which represent an upper limit of minor adverse effects to biological resources. Contaminant concentrations above the CSLs are a high priority for remediation activities, and recontamination of sediments to these levels following cleanup is considered unacceptable. SMS criteria and concentrations of non-polar organic compounds are organic-carbon normalized to better reflect their potential bioavailability.

Concentrations of mercury and PAHs in particles exceeded the SQS and CSL levels (Figs. 4 and 5). Additional contaminants exceeding SMS criteria in particles are listed in Table II; the complete data set can be found in EBD RP (1995a). Because CSL criteria were exceeded in settling particulate matter, the second phase of the study focused on identifying the sources of these contaminants and determining whether these sources could be controlled prior to conducting a cleanup of the Seattle waterfront.

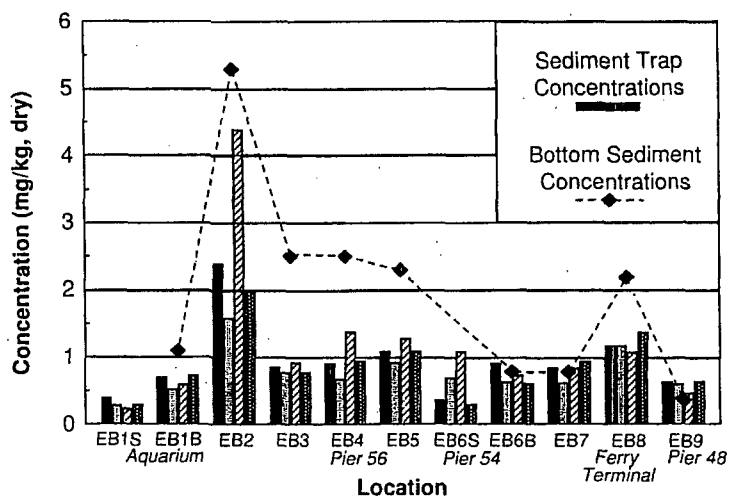


FIGURE 4 Mercury concentrations in settling particulate matter collected in sediment traps. Data are shown on a quarterly basis; solid bars = Oct-Dec 1993, grey bars = Jan-Apr 1994, striped = May-July 1994, stippled = Aug-Oct 1994. The close correspondence of mercury concentrations in the traps with bottom sediment concentrations at these locations indicates that much of the collected particulate volume may be due to resuspension of bottom sediments. Note in particular the lower concentrations in the two surface traps, EB1S and EB6S.

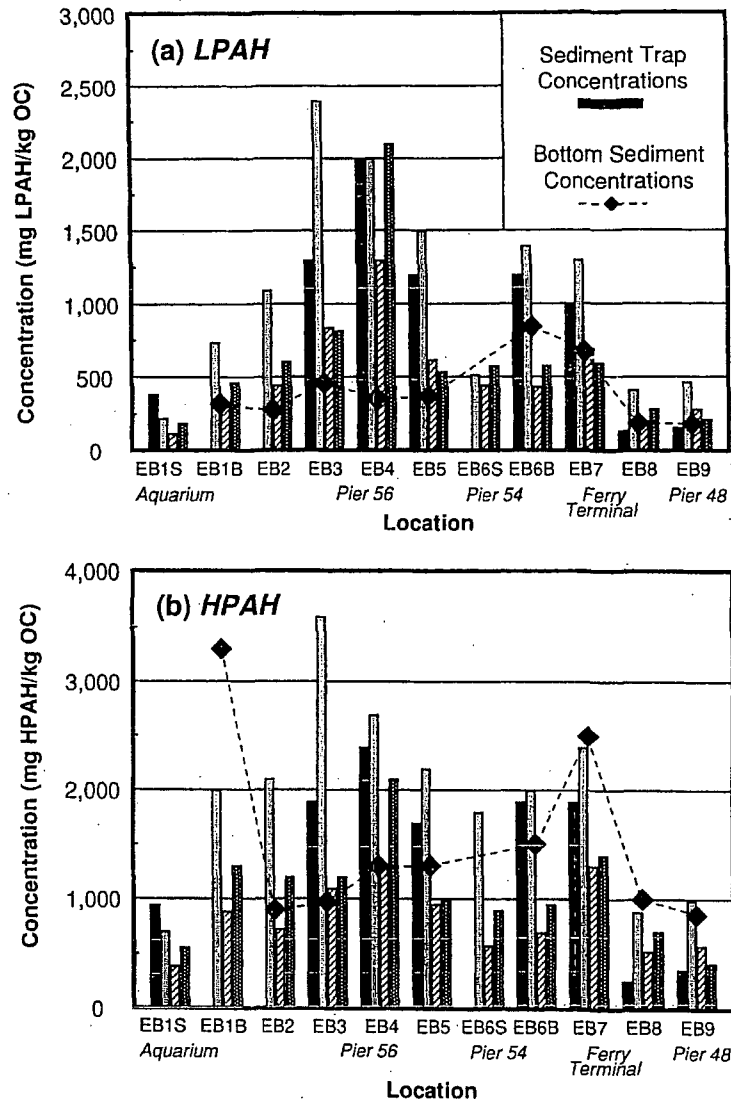


FIGURE 5 PAH concentrations in settling particulate matter collected in sediment traps. Solid bars = Oct-Dec 1993, grey bars = Jan-Apr 1994, striped = May-July 1994, stippled = Aug-Oct 1994. In the first quarter, there was not enough volume of sediments in all traps to conduct PAH analyses. PAH concentrations in the traps are less closely correlated with bottom sediment concentrations, indicating the likely presence of ongoing sources of PAH to the waterfront as well as contributions from resuspension.

TABLE II Contaminants exceeding Cleanup Screening Levels in settling particulate matter. Cleanup Screening Levels are numeric sediment criteria used by the Washington Department of Ecology to identify sediments that are expected to have adverse effects on aquatic life and therefore require cleanup. The ratio shown is the number of samples exceeding the Cleanup Screening Levels over the number analyzed

<i>Chemical</i>	<i>Number of samples</i>	<i>Percent exceeding CSLs</i>	<i>Station with highest concentration</i>
Mercury	36/44	84%	EB-2
Benzoic Acid	19/41	46%	EB-2
LPAH	15/41	37%	EB-3
Dibenzofuran	14/41	34%	EB-4
Bis(2-ethylhexyl)phthalate	13/41	32%	EB-8
4-Methylphenol	8/41	20%	EB-8
2-Methylnaphthalene	6/41	15%	EB-4
Pentachlorophenol	5/41	12%	EB-1S
Phenol	3/41	7%	EB-8
Benzyl alcohol	3/41	7%	EB-1B
1,4-Dichlorobenzene	1/41	2%	EB-8
Butylbenzyl phthalate	1/41	2%	EB-5
Di-n-butyl phthalate	1/41	2%	EB-3
Chromium	1/44	2%	EB-6S
Copper	1/44	2%	EB-2

Point and Non-point Source Evaluation

To identify the sources of contaminants on particles collected in the sediment traps, various source types were investigated, including CSOs and storm drains, an industrial discharge (Seattle Steam Plant), the Duwamish River plume, other non-point sources, and bottom sediments resuspended near the sediment traps.

Point Source and Duwamish River Discharges

Discharge rates during the study period were calculated for each of the CSOs and storm drains within the study area (Tab. III). Unfortunately, rainfall during the study period was substantially below average, lowering flow and discharge rates to the point where many CSOs and storm drains did not measurably discharge. For this reason, the 1993–1994 study year was not considered representative of typical or worst-case loading to the study area. A more conservative estimate of potential discharges was developed using recent annual average flow and discharge rates, also listed on Table III, obtained from similar

TABLE III Source loading summary for particulates and indicator contaminants (mercury and PAHs). Sources are divided into Duwamish River, which includes all point and non-point sources upstream of the study area, and combined sewer overflows (CSOs) and storm drains (SDs) within the study area. Recent, or typical average, discharges are compared to the study year, which was unusually dry. Although sources in the Duwamish River are far greater than those within the study area due to its high volume of discharge, concentrations on particulates are relatively low and most of these suspended particulates flow through the study area in a surface layer of river water and are discharged into Puget Sound

Source	Discharge Volume (MG/yr)		Pollutant Concentration			TSS Load (kg/yr)		Mercury Load (g/yr)		PAH Load (g/yr)	
	Recent Average	1993-1994 Study Period	TSS (mg/L)	Mercury (mg/kg)	PAH (mg/kg)	Recent Average	1993-1994 Study Period	Recent Average	1993-1994 Study Period	Recent Average	1993-1994 Study Period
Duwamish River											
Total	343,500	222,500	5.9	0.328	5	7,671,500	4,975,500	2,510	1,660	38,360	25,000
Study Area (5.7% TSS Load)			5.9	0.328	5	434,500	283,600	143	93	2,200	1,400
Study Area CSOs and SDs											
Pine St. SD	0.4	0.0	46	0.23	21	63	0	0.01	0.00	1.32	0.0
Industrial Discharge	6.8	7.4	59	0.26	8.3	1,520	1,660	0.39	0.43	13.0	14
University St. CSO	2.8	0.0	121	0.48	8.5	1,280	0	0.62	0.00	10.9	0.0
University St. SD	1.7	0.0	46	0.23	21	300	0	0.07	0.00	6.2	0.0
Seneca St. SD	0.3	0.0	46	0.23	21	50	0	0.01	0.00	1.1	0.0
Madison CSO	0.7	0.0	121	0.48	8.5	321	0	0.15	0.00	2.7	0.0
Madison St. SD	11	2.9	46	0.23	21	1,860	508	0.43	0.12	39.1	0.0
S. Washington St. CSO	0.8	0.0	121	0.48	8.5	366	0	0.18	0.00	3.1	0.0
S. Washington St. SD	4.6	1.5	59	0.26	8.3	1,030	341	0.27	0.09	8.5	2.8
S. King St. CSO	55	18	121	1.8	10	25,200	8,440	45	15	252	84
Total Study Area CSOs and SDs	84	30				32,000	11,000	47.1	15.6	338	101
Total Study Area Loading						466,500	294,600	190	110	2,540	1,500

data collected in 1981–1983. These estimates are discussed in the sections below. However, there had been recent separation and source control projects at several of the large CSOs after 1983, and the study year data were retained for comparison to evaluate potential improvements to loading that might be due to source controls (*e.g.*, CSO separation) rather than low rainfall.

Drainage basins, system capacities, discharge volumes, and overflow frequencies for the outfalls were obtained from King County and City of Seattle (KCDMS, 1995; Brown and Caldwell, 1988). Where discharge volumes were not directly measured, CSO volumes were estimated using a model developed for City CSO control plans (Brown and Caldwell, 1988; Seattle Engineering Dept., 1989), and storm drain flow volumes were estimated using the U.S. Soil Conservation Service TR-55 rainfall-runoff model. Rainfall records were obtained from the NOAA Sand Point monitoring station (10 km NE of Elliott Bay) in Seattle. Flow measurements for the Duwamish River were obtained from USGS.

Concentrations of total suspended solids, PAHs, and Hg were obtained for each potentially significant source, including the Duwamish River and various CSOs and storm drains along the waterfront. TSS and contaminant concentrations in CSO and storm drain effluents were obtained from City and Metro monitoring data (Cooley *et al.*, 1984; KJC, 1987; Tetra Tech., 1988; Merrill, 1989; PTI, 1991; Herrera, 1994; Wilson and Romberg, 1996). TSS and contaminant concentrations in the Duwamish River were obtained from various monitoring reports, including Romberg *et al.* (1984); METRO (1990); KCDMS (1994) and EVS and Hart Crowser (1995).

Flow rates were multiplied with TSS concentrations to obtain the total TSS load to the study area. Measured concentrations on particulates from the point sources and the Duwamish River were multiplied with the TSS loading rate to obtain mercury and PAH loading rates. Contaminant loads were estimated based on the particle fraction in the source discharges, neglecting possible contributions of dissolved contaminants to sediments. Previous studies of local CSOs and storm drains have shown that the particle fraction varies from about 65 to 90% of the total metal loading (Tomlinson *et al.*, 1980) and about 90% of the total loadings from aliphatic and aromatic organics (Gavin and Moore, 1982). It has also been shown that re-partitioning between dissolved and particle fractions following discharge of organic and

metal contaminants has a negligible effect on contaminant loadings to sediments (PTI, 1992; Boatman, 1988). Therefore, the dissolved load to surface water will largely remain in surface water and not contribute significantly to sediment concentrations.

To estimate the impact of these combined loading rates, particles from these sources were assumed to be evenly deposited onto sediments within the study area (approximately 800 m by 200 m). This approach should yield an upper bound estimate of contaminant loading to local sediments, since in actuality particles from local discharges largely remain in the surface plume and are transported out of the study area in less than a day. Additional details of point source loading and modeling calculations can be found in EBDP (1995b).

The Duwamish River plume contributes approximately 143 g Hg/yr, and local point sources approximately 47 gm Hg/yr, for a total mercury loading of 190 g/yr. Using the assumption described above, newly deposited surface sediments would have an estimated mercury concentration of 0.40 mg/kg. Because this concentration is below the CSL (0.59 mg/kg), and is considerably lower than the observed mercury concentrations in the surface sediments and the sediment traps, wide-spread impact from existing sources is not expected.

However, the loading data show that 45 g/yr of the 47 g/yr discharged within the study area are discharged from the King St. CSO, suggesting the possibility of a local mercury impact near this CSO (Tab. III). If the area impacted is assumed to be the Piers 46/48 slip (100 by 200 meters), the total mercury load would be about 63 g/yr, including the contribution from the Duwamish River plume. This yields an average concentration of about 1.1 mg/kg in newly deposited surface sediments in the slip, about equal to the geometric mean of measured mercury concentrations in surface sediments in the Pier 46/48 slip (0.9 mg/kg), corroborating the potential of this CSO to cause localized mercury exceedances in the slip.

The King St. CSO also contributes 60% of the average annual PAH loading within the study area (252 g/yr). Measured PAH concentrations in surface sediments of the Pier 46/48 slip have a geometric mean of about 1,800 mg/kg OC. The King St. CSO particulate PAH concentration (1,000 mg/kg OC) suggests limited influence on the local sediments, and possibly even an eventual improvement in the ambient total PAH concentration within the slip.

Sources other than the King St. CSO contribute 40% of the PAH loading to the study area. Worst-case loading estimates for the entire study area predict an average maximum total PAH surface sediment concentration of 550 mg/kg OC. This is well below the CSL for either the LPAHs (780 mg/kg OC) or the HPAHs (5,300 mg/kg OC), and is much lower than concentrations in the sediments and in bottom sediment traps. The results suggest that neither the Duwamish River nor the local existing discharges are the source of PAHs found in the traps or sediments, nor would they result in unacceptable recontamination following cleanup.

Because of the relatively large flow volume of the Duwamish River compared to the point sources, the loading contribution of the Duwamish River dominates all other ongoing sources. However, much of this plume remains within the surface layer and is transported out of the study area to Puget Sound.

To better evaluate the potential influence of the Duwamish River, surface sediment traps were placed to intercept particulates in the surface layer of water associated with the Duwamish River Plume. Arsenic, chromium, iron, and zinc are higher in surface traps in the fall quarter (October through December 1993), but decrease to below the bottom sediment concentrations in later quarters. The surface trap at station EB1 during the fall quarter had the highest measured particulate concentrations of arsenic (41 mg/kg), zinc (390 mg/kg), and iron (41,000 mg/kg) of any bottom or surface trap. The higher particulate arsenic, zinc, and iron concentrations in this sample are believed to be from the Duwamish River plume during a high flow event that occurred in early December 1993. Meteorological data from the Colman Dock show fairly strong winds from the north during this period, which tend to constrain the plume over the study area, increasing the likelihood of particle deposition.

For comparison, Duwamish River particulate concentrations for arsenic, zinc, and iron measured during three previous studies averaged 38, 340, and 57,000 mg/kg, respectively (Romberg *et al.*, 1984; Curl *et al.*, 1988; Riley *et al.*, 1980). These are natural background concentrations for the geologic formations from which these particles derive, and are not reflective of contamination. The concentrations measured in the surface trap at EB1 are well within one standard deviation of these averages, supporting the hypothesis that

the Duwamish River plume was the source of these metals during the fall of 1993.

Non-point Sources

Sediment trap particles from the central waterfront area (EB-2–EB-6) had higher LPAH/HPAH ratios than bottom sediments, indicating that non-point sources of LPAHs may be present to the water column that do not accumulate in sediments. The highest LPAH/HPAH ratios were observed in traps near the end of Pier 56 and the Pier 56/57 slip. Potential sources of LPAH include minor fuel and lubricating oil spills and leaks, potential seeps of petroleum contaminated groundwater, and possible leaching from creosote-treated pilings. The historical surface sediment data in the study area indicates that, while these sources may contribute to elevated LPAH concentrations in the water column particles, they are not persistent in bottom sediments above levels of concern, possibly due to rapid biodegradation.

These point and non-point source evaluations indicate that few existing sources have the potential to cause recontamination above levels of concern. Existing point sources along the waterfront have been largely controlled, to the point where little discharge of contaminants occurs. The exception to this is the King St. CSO, which has not yet been controlled and may continue to cause localized sediment quality problems in the Piers 46/48 slip. In addition, non-point sources of LPAHs to the water column appear to be present, centering on the Pier 56–57 area. While this is a continuing concern, the sediment quality data and LPAH/HPAH ratios indicate that these LPAHs largely degrade before accumulating significantly in bottom sediments. Finally, the Duwamish River does not appear to be a significant source of contaminants. Occasionally, the sediment plume from the Duwamish River may contribute particles with higher levels of certain metals to the central waterfront area. However, these are natural concentrations which do not adversely impact aquatic life. None of the water column sources explored above could have contributed particles with the high levels of mercury, silver, and PAHs seen in the sediment traps. The remaining potential source of contaminants is resuspension of bottom sediments.

Bottom Sediments

Having ruled out ongoing sources as significant contributors of contaminants to the water column, concentrations in bottom sediments were compared with concentrations in sediment trap particles to evaluate the possibility that resuspension of bottom sediments is the primary source of contaminants to the water column.

Metal concentrations in trap particles were highest at station EB2 (Hg, Ag, Pb, Zn), EB5 (Ag, Pb, Zn), and EB8 (Ag, Pb). This trend is similar to that in surface sediment concentrations near the sediment traps (*e.g.*, Fig. 4). For example, the geometric mean mercury concentration in surface sediments in the vicinity of station EB8 (1.2 mg/kg) was nearly identical to average concentrations in the associated sediment trap (1.2 ± 0.1 mg/kg).

Average total PAH concentrations on particles were highest in trap EB4 located beneath Pier 56, followed by EB5, EB3, EB2, and EB7 (Fig. 5). South of the ferry terminal, traps at stations EB8 and EB9 had much lower PAH concentrations than those further north. This pattern correlates well with areas of known PAH contamination, and suggests that bottom sediments may also be contaminated under and around Piers 55–57, where few data exist.

Comparison of surface and bottom trap results also proved useful in identifying sources of particles to the study area. PAH, mercury, and silver concentrations are generally higher in bottom traps than in surface traps, consistent with the high concentrations of these chemicals in bottom sediments, particularly at Station EB-6 (EB-1 was a control station located in a relatively clean, quiescent area and thus was not as greatly impacted by bottom sediment resuspension). The co-occurrence of particulate mercury and silver concentrations in the sediment traps and surrounding sediments also suggests that the majority of these metals in particles is derived from localized resuspension. As a result of all of the above analyses, we hypothesized that resuspension of bottom sediments is the primary source of particulate contaminants to the water column.

Deposition and Resuspension Rates

The potential for resuspension of bottom sediments was further evaluated by comparing accumulation in sediment traps with net

sedimentation rates, measured by core dating. The resuspension rate is calculated as the difference between the trap accumulation rate and the deposition rate (Tab. IV).

Sediment Trap Accumulation

Accumulation rates from bottom trap data are compared in Figure 6. The highest mean accumulation rates were consistently measured at Station EB-8, immediately south of the ferry terminal. The spatial and temporal patterns observed along the waterfront suggest that vessel traffic affects trap accumulation by resuspending bottom sediments. The highest rates were measured from May to October, when waterfront vessel traffic peaks during the summer tourist season. Examples of tourist associated vessel traffic along the waterfront include: harbor tours (Pier 57), fishing charters (various piers) and large vessels such as the Canadian Ferry "Royal Victorian" which makes daily runs to the north side of Pier 48 between May and September. Areas least influenced by vessel traffic (near the Seattle Aquarium and the southwest end of Pier 48) had consistently lower accumulation rates and did not exhibit the seasonal fluctuations observed at other locations.

^{210}Pb analysis of sediment trap particles also suggests significant resuspension of bottom sediments (Fig. 7). ^{210}Pb levels in bottom traps were at a minimum from May to July. When bottom sediments are being resuspended, ^{210}Pb activities in sediment traps would decrease because particles originating in the water column, which typically have higher ^{210}Pb activities, are being mixing with lower-activity bottom sediments suspended into the water column.

TABLE IV Comparison of gross and net accumulation rates ($\text{g}/\text{cm}^2/\text{yr}$). Gross accumulation is calculated from the volume of material in the sediment trap. Net accumulation, or deposition, is calculated from sediment cores. Resuspension rates represent the difference between gross accumulation and deposition rates. Core locations are shown in Figure 3. Deposition rates varied with time at location C2; therefore a range is shown to reflect the uncertainty in the data.

Location	Accumulation	Deposition	Resuspension	Percent Resuspended
Pier 48/52 Slip (C3)	1.2 ± 0.53	0.1	1.1	90
Pier 54/55 Slip (C1)	0.79 ± 0.23	0.3	0.5	60
Pier 56/57 Slip (C2)	0.81 ± 0.43	0.3–0.7	0.1–0.5	10–60

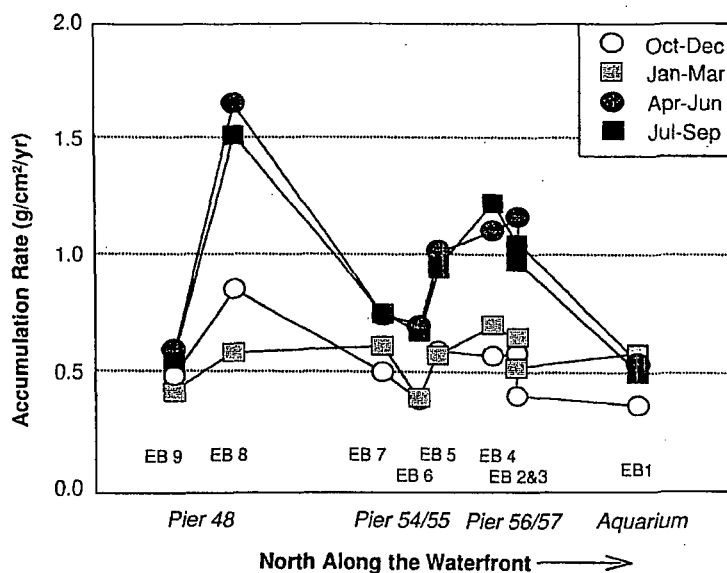


FIGURE 6 Quarterly accumulation rates in bottom sediment traps. Results clearly show higher accumulation in the spring/summer season, when vessel traffic peaks along the waterfront due to recreational and tourist activity. Also notable are higher accumulation rates in locations with heavy vessel traffic, including the ferry docks (EB8) and harbor tours/vessel moorage areas (EB2–EB5).

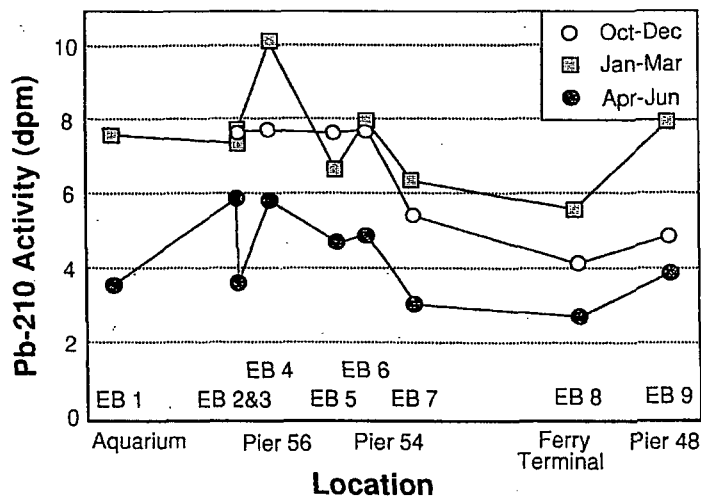


FIGURE 7 Quarterly ²¹⁰Pb levels in bottom sediment traps. ²¹⁰Pb levels provide further evidence of a large bottom sediment contribution in the spring and summer months to sediment trap particulates, shown by the depressed ²¹⁰Pb concentrations in the Apr–June quarterly samples (due to cost constraints, ²¹⁰Pb was not analyzed during the fourth quarter).

Sedimentation Rates

Analysis of core data shows that there does not appear to be a mixed surface layer indicative of active burrowing of benthic infauna. Consequently, the net sediment accumulation rate was determined using a constant accumulation model, which considers only compaction and decay and neglects biological mixing (Christensen, 1982). This model uses the change in measured sediment bulk density with depth (compaction) to determine the net accumulation rate from the measured ^{210}Pb activity values. The only other inputs to the model are the surface ^{210}Pb activity and the constant activity with depth supported by *in situ* ^{226}Ra decay. The measured bulk density as a function of depth is fitted to an exponential equation and used in the solution for the accumulation rate from a best statistical fit to the ^{210}Pb activity as a function of depth.

However, in core C2, the bulk density does not increase smoothly with depth as would be expected for a sediment core with a constant sediment accumulation rate. In the upper 50 cm, there is a significant change in bulk density, suggesting that the sedimentation rate has not remained constant with time. Accumulation rates for core C2 were calculated for individual core sections based on the ^{210}Pb age of each section.

The first order rate equation for radioactive decay may be expressed as:

$$A(t) = A_0 e^{-\lambda t} + A$$

where $A(t)$ is the total activity as a function of time, A_0 is the activity at the surface, A is the constant supported activity at depth, and λ is the decay constant for ^{210}Pb .

Solving for time (t), the time elapsed since deposition in years is:

$$t = [-\ln\{(A(t) - A)/A_0\}]/\lambda.$$

Based on this analysis, the accumulation rate in core C2 increased 7-fold, from 0.1 g/cm²/yr in the early 1960's, to 0.3 g/cm²/yr through the mid-1980's, to 0.7 g/cm²/yr in 1993. The higher recent accumulation rate for core C2 is consistent with the surface sediment grain size data,

which show that this is poorly sorted, fine grained area, indicating net deposition.

Resuspension Rates

The data presented in Table IV demonstrate that net accumulation and resuspension rates are strongly influenced by in-water structures. The slip between Piers 48 and 52 is the most open area, has the most vessel traffic, the highest gross sedimentation, and highest percentage of resuspension. The Pier 54/55 slip is an intermediate-size slip, with less vessel traffic and smaller vessels, whereas the Pier 56/57 slip is relatively narrow without significant vessel traffic and shows the smallest percent resuspension. The highest net accumulation rates occur in the narrower slips and under piers, areas removed from vessel traffic.

The results of the sediment trap and core dating studies reinforce the source control evaluation and sediment trap chemistry results. It is apparent that the likely source of contaminants to the water column (and thus any proposed cleanup projects) is resuspension of adjacent bottom sediments. Spatial and temporal trends in the sediment trap data strongly suggest that vessel traffic is a significant contributor to resuspension.

Transport of Resuspended Particulates

To address cleanup of the central Seattle waterfront, it was necessary to know whether any sub-areas could be cleaned up independently, or whether the entire cleanup project must be conducted at one time. Because significant resuspension of contaminated bottom sediments is occurring, partial cleanup projects could be threatened by deposition of resuspended sediments from nearby unremediated areas.

This question was addressed by synthesizing current meter results into an overall pattern of bottom currents (Fig. 8), which were expected to transport the majority of resuspended sediments. The current data show that the Seattle waterfront is comprised of several distinct flow patterns. The northernmost area is characterized by the current meter records in the vicinity of Pier 59 (EB1) where the flow

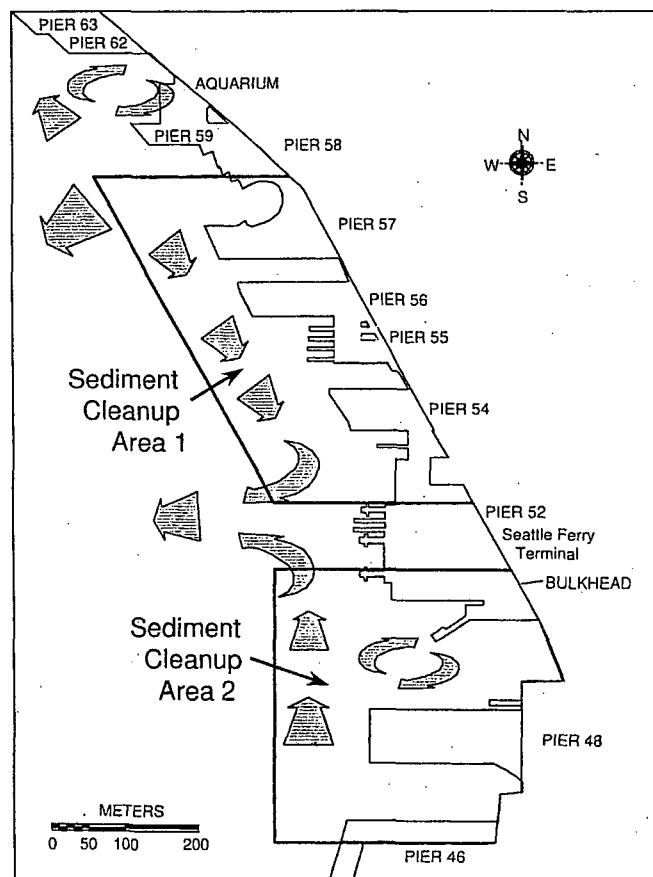


FIGURE 8 Generalized bottom circulation from net currents and proposed remediation areas. Year-long current records show that net waterfront currents converge on the ferry dock, where water is propelled offshore by large auto ferries idling during loading and unloading. Circulation of contaminants resuspended into the water column is divided into two areas north and south of the ferry dock, which can therefore be cleaned up independently of one another without concerns about recontamination.

outside of the pier face is northward. There may be an inshore eddy as indicated by the southward vectors at EB1A.

In the vicinity of Pier 58 (Waterfront Park), the near-bottom flow changes from northward to southward, indicating that the current is diverging away from the Pier 58 area. The record at EB10, just south of Pier 59, identified a net vector directed to the west, which is

consistent with a divergent current in the vicinity of Pier 58. One hypothesis which could explain a divergent current in the vicinity of Pier 58 would be the result of a hydrostatic head created by the "pile-up" of the Duwamish River plume against the waterfront bulkhead at Pier 58. This pile-up of surface water would create a hydrostatic head, producing a divergent subsurface current.

From Pier 57 southward to Pier 54, the vectors point southeastward along the pier faces. The southward flow terminates near Pier 52, the Seattle ferry terminal. South of the ferry terminal, the vectors along the dock faces point northward. Between Piers 48 and 57 the currents in the vicinity of the pier faces converge at the ferry terminal and then head offshore. It appears the water is drawn by idling superferries from as far north as Pier 57, and at least as far south as Pier 48. In the area between Pier 52 and Pier 48, the vectors are directed southward, suggesting an eddy south of the ferry terminal.

CONCLUSIONS

Integrating source control, sediment trap, core, and current meter data led to a conceptual model of the Seattle waterfront. The primary conclusions associated with this model are:

- Contaminants are present on particles in the water column at levels that adversely affect aquatic life. These contaminants present a strong potential for recontamination of a cleanup site if the source is not controlled.
- Local point sources are not a significant source of contamination to particles in the water column (with the exception of King St. CSO in the Pier 46/48 slip). Likewise, contributions from the Duwamish River are below levels of concern. Historical sources along the waterfront appear to be responsible for most of the existing contamination.
- Non-point sources of LPAH to the water column are present but are rapidly degraded, and therefore are not likely to cause recontamination above cleanup standards.
- Resuspension of contaminated bottom sediments is the primary source of contaminants to the water column. Vessel traffic is largely

responsible for this resuspension. In vessel traffic areas, there is less deposition and greater resuspension; in protected areas (under piers and in narrow slips), there is greater deposition and less resuspension.

- Once resuspended, contaminated particles may be transported by currents to other waterfront areas. This presents a significant potential for recontamination of partial cleanup projects within hydrodynamically connected areas.

Cleanups may be designed to minimize the impacts of resuspension once the processes affecting cycling and transport of contaminants are understood. Based on our results, the authors recommended to the agencies that the cleanup of the Seattle waterfront be conducted in two phases, corresponding to the major areas along the waterfront that were hydrodynamically isolated (Fig. 8). Each of these areas could be remediated separately from one another, but each would need to be cleaned up in its entirety to prevent recontamination due to resuspension and transport within the area.

Given the complex pattern of ownership, funding limitations, and opportunities for partial cleanups created by isolated developments, comprehensive cleanup of an urban waterfront is seldom proposed. However, this study illustrates that, along working waterfronts, contaminated bottom sediments are not static but are continually resuspended and transported to nearby areas. It is important to identify the natural and anthropogenic processes contributing to resuspension, and determine if these can be controlled to limit the introduction of contaminants into the water column. Part 2 of this series presents field and modeling studies of processes of sediment resuspension along the Seattle waterfront, including wind waves and boat wakes, natural currents, and propeller wash induced by vessel traffic.

Other waterfront activities including construction, pier maintenance, and navigational projects must also be coordinated with cleanup activities, particularly if they rely on long-term containment remedies. Such activities have caused recontamination of several smaller, partial cleanups along the Seattle Waterfront (Wilson and Romberg, 1994, 1996). With careful planning, sources of resuspension can also be managed to minimize the potential for conflict with

cleanup and habitat restoration projects. Part 3 of this series (in preparation) evaluates these conflicts between cleanup and restoration projects and waterfront development, navigation, and commercial activities. A variety of engineering and intergovernmental planning strategies are provided to successfully manage or avoid these conflicts.

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